DOCUMENT RESUME

ED 381 160 IR 055 437

AUTHOR	Adams, Judith A.; And Others
TITLE	Electronic Information Access Technologies: A Faculty Needs Assessment.
INSTITUTION	New York State Univ. System, Albany.
SPONS AGENCY	Council on Library Resources, Inc., Washington, D.C.
PUB DATE	May 93
NOTE	93p.; Some pages contain filled-in type.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	Academic Libraries; *Access to Information; Administrators; *Attitude Measures; *College Faculty; Computer Uses in Education; Expenditures; Higher Education; Information Technology; Interlibrary Loans; Library Collection Development; *Library Collections; Library Cooperation; *Needs Assessment; Scholarly Journals; Shared Resources and Services; Surveys; Use Studies
IDENTIFIERS	Document Delivery; Remote Access; *State University of New York

ABSTRACT

This report presents the results of a survey of the information needs, attitudes, and expectations of faculty, administrators, and other academic professionals in the four University Centers of the State University of New York. The study sought current faculty views on information technology and access, library collections, cooperative collection development, and library resource sharing. Findings include: (1) the most common obstacle to use of electronic information resources for faculty is a lack of knowledge about what is available, rather than lack of funds; (2) user training is a high-priority need; (3) faculty access to computers, modems, and printers, and use of electronic information sources are high, and access to campus networks is less than optimal; (4) humanities faculty, in comparison with faculty in social science, science, and in the Professional Schools, have significantly less access to computer and communications equipment and software, and to the campus network; (5) a majority of respondents report that their campus library contains 75% or more of the key items in their field; (6) 79% report using interlibrary loan (ILL), but a majority do so only infrequently; (7) 40% report that they would use an expedited document delivery service only if it were free; (8) acceptable ILL delivery times for books and journals differ slightly, but in both instances faculty expectations remain relatively modest; (9) respondents express an interest in initiating a wide variety of library transactions by computer from their homes or offices; and (10) a surprisingly high percentage of faculty use personal funds to buy needed publications. Six recommendations are offered to improve faculty access and information technology use, and thirty-six tables illustrate the findings. Appendices include: the paper, "Issues Facing Research Libraries: Summary and Discussion Groups," from the Council on Library Resources Project Symposium on Policy Issues in Cooperative Collection Development and Resource Sharing; "Technology Infrastructure Survey and Resource Sharing Needs Assessment," a proposal to the library directors; the faculty needs assessment survey instrument; information on the study's authors; and a 51-item bibliography. (MAS)

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED 381 160

STATE UNIVERSITY OF NEW YORK

UNIVERSITY CENTER LIBRARIES

UNIVERSITY AT ALBANY
UNIVERSITY AT BINGHAMTON
UNIVERSITY AT BUFFALO
UNIVERSITY AT STONY BROOK

ELECTRONIC INFORMATION ACCESS TECHNOLOGIES: A FACULTY NEEDS ASSESSMENT

by

JUDITH A. ADAMS

DEBORAH LINES ANDERSEN

SHARON C. BONK

SUE R. FAERMAN

THOMAS J. GALVIN

(This study was supported in part by a grant from the Council on Library Resources, Inc.)

ALBANY AND BUFFALO, NY

MAY 1993

IR055437

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
E. B. Timmer

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

COPYRIGHT

Judith A. Adams
Deborah Lines Andersen
Sharon C. Bonk
Sue R. Faerman
Thomas J. Galvin

ALL RIGHTS RESERVED
1993

TABLE OF CONTENTS

EXECUTIVE SUMMARY 1

ACKNOWLEDGMENTS 3

CHAPTER I: STATEMENT OF THE PROBLEM: BACKGROUND, PURPOSE, OBJECTIVES 4

I.A Research Library Issues 4
I.B Collaborative Planning 5
I.C SUNY University Center Libraries Project 5
I.D Faculty Needs Assessment 5
I.E The Study Team 6
I.F Reporting the Results of the Faculty Needs Assessment 7

CHAPTER II: STUDY DESIGN, METHODOLOGY, DEMOGRAPHICS 9

II.A Universe of the Study 9
II.B Survey Instrument 10
II.C Study Procedure 11
II.D Response Rates and Demographics 11

CHAPTER III: ACCESS TO ELECTRONIC TECHNOLOGIES AND INFORMATION SERVICES 16

III.A Faculty Access to Hardware and Software 16
III.B Levels of Use of Electronic Information Sources 19
III.C Electronic Information Sources Currently Used 27
III.D Obstacles to Use of Electronic Information Technology 28
III.E Factors to Increase Use of Electronic Technologies 29
III.F Training Modes Preferred by Faculty 31
III.G Open-ended Response Questions That Pertain to This Section 31
III.H Significant Findings and Implications for Libraries 33

CHAPTER IV: ACCESS TO MATERIALS 35

IV.A Key Books and Journals Available in Local Campus Library 35
IV.B Frequency of Interlibrary Loan Requests 37
IV.C Methods Used to Obtain Materials Not Available in Campus Libraries 38
IV.D Other Libraries Used by Respondents 40

IV.E Expenditure of Personal, Department, Grant or Other Funds to Access or Acquire Information Resources 41
IV.F Open-Ended Response Questions That Pertain to This Section 43
IV.G Significant Findings and Implications for Libraries 45

CHAPTER V: CURRENT AND FUTURE EXPECTATIONS 46

V.A Delivery Time for Interlibrary Loan Requests 46
V.B Preference for Modes of Interlibrary Loan Delivery of Journal Articles 48
V.C Charges for Expedited Document Delivery Service 49
V.D Electronic Information Sources Desired but Without Current Access 50
V.E Library Transactions Initiated by Computer 51
V.F Division of Information Resource Funds 52
V.G Open-Ended Response Questions That Pertain to This Section 53
V.H Significant Findings and Implications for Libraries 55

CHAPTER VI: SUMMARY, RECOMMENDATIONS, AREAS FOR FUTURE RESEARCH 56

VI.A Summary 56
VI.B Methodology 56
VI.C Major Findings 57
VI.D Six Action Recommendations for the University Center Libraries 60
VI.E The Study Design--A Retrospective 63
VI.F Areas for Future Research 65

APPENDICES

A. "Issues Facing Research Libraries: Summary Discussion Groups." SUNY University Center Libraries, Council on Library Resources Project, Symposium on Policy Issues in Cooperative Collection Development and Resource Sharing, November 20, 1991. 66

B. "Technology Infrastructure Survey and Resource Sharing Needs Assessment: Proposal to the Library Directors, SUNY University Center Libraries." April 28, 1992. 75

C. Survey Instrument: Faculty Needs Assessment 78

D. The Authors 84

E. Bibliography of Articles Related to This Study 85

EXECUTIVE SUMMARY

This report presents the results of a survey of the information needs, attitudes, and expectations of faculty, administrators, and other academic professionals in the four University Centers of the State University of New York--Albany, Binghamton, Buffalo, and Stony Brook. The study sought current faculty views on information technology and access, library collections, cooperative collection development, and library resource sharing.

Distributed during the week of September 1, 1992, this survey is part of a Council on Library Resources sponsored study of management and policy issues relating to library resource sharing and cooperative collection development. The objectives were

1. To produce a needs assessment and inventory of the technologies now utilized and/or needed by SUNY faculty and libraries for effective access to electronic information products and networked resources

2. To achieve an awareness of faculty needs and expectations regarding access to electronic and networked information resources

3. To become aware of faculty perceptions of acceptable library or system performance in a resource-sharing environment and for an effective document delivery system

4. To sensitize faculty and foster their commitment to resource sharing and document delivery among the SUNY Center libraries.

The population was defined as "all core teaching faculty, plus selected administrators and professional personnel, and clinical faculty" on the four University Center campuses. The instrument was sent to 3,721 potential faculty respondents, and 1,007 usable responses were received, for a response rate of 27%.

Major Findings

1. The most common obstacle to use of electronic information resources for faculty is a reported lack of knowledge about what is available, rather than lack of funds. A need exists that libraries could respond to at relatively modest cost and effort.

2. User training is a high-priority need. A variety of faculty-training options are needed.

3. Faculty access to computers, modems, and printers, and use of electronic information sources are high. Faculty access to campus networks, however, is less than optimal.

4. Humanities faculty, in comparison with faculty in Social Science, in Science, and in the Professional Schools, have significantly less campus access to computer equipment, communications equipment and software, and connections to the campus network.

5. A majority of respondents report that their campus library contains 75% or more of the key items in their field.

6. Seventy-nine percent of the respondents report using interlibrary loan for obtaining materials not in their campus library, but a majority do so only infrequently.

7. Forty percent report that they would use an expedited document delivery service only if it were free.

8. Acceptable interlibrary loan delivery times for books and journals differ slightly, but in both instances faculty expectations remain relatively modest.

9. Respondents express an interest in initiating a wide variety of library transactions by computer from their homes or offices.

10. A surprisingly high percentage of faculty use personal funds to buy needed publications.

Six Action Recommendations for the University Center Libraries

1. Explore the feasibility of creating and supporting a single center for information and training in electronic information technologies and services.

2. Improve campus networking and enhance faculty connectivity systemwide.

3. Initiate a systematic study of the information technology and information access needs of humanities scholars in the University Centers, and develop cooperative plans to respond to those needs.

4. Explore the potential economies of group site licensing, especially for the most frequently used electronic databases and other information sources.

5. Develop and implement action plans and service policies to facilitate the transition for faculty (and students) from a library and information service environment of "buy in anticipation of demand" to one of "borrow and share in response to demand."

6. Maintain a University Center-wide policy advisory body to assist the library directors in planning for and implementing an expanded program of cooperative collection development and resource sharing.

ACKNOWLEDGMENTS

This study was made possible and supported in part by a grant to the SUNY University Center Libraries by the Council on Library Resources, Inc., David Penniman, President. It was conceived and carried out under the joint leadership of the directors of the four University Center Libraries: Meredith Butler, Dean and Director of Libraries, University at Albany; Eleanor Heishman, Director of Libraries, University at Binghamton; Barbara von Wahlde, Associate Vice President for Libraries, University at Buffalo; and John Brewster Smith, Dean and Director of Libraries, University at Stony Brook. We acknowledge their collective leadership and support, as well as the work of Stephen Roberts and Sharon Schiffhauer of the University at Buffalo and Lana Malinowski of the University at Albany Foundation, who managed the grant.

The co-authors also wish to thank the members of the University Center Libraries Library Policy Advisory Council and the members of the several Council on Library Resources study committees for their advice and assistance.

Many others contributed to the design and execution of this study. Among them, we especially wish to thank Henry Riecken of the Council on Library Resources; Duane C. Webster and Susan Jurow of the Association of Research Libraries; Eugene Joyce and his staff of the Professional Development Program, William K. Holstein, former Executive Director, and Kim Gates, Secretary, of the Institute for the Study of Information Science, and Assistant Provost Jerry Parker, all in the Nelson A. Rockefeller College of Public Affairs and Policy, University at Albany; and Eileen D'Alessandro and Linda Reeves for preparation of the survey instrument.

CHAPTER I

STATEMENT OF THE PROBLEM: BACKGROUND, PURPOSE, OBJECTIVES

This is a report of a study of the needs, attitudes, and expectations for library and information services of faculty, administrators, and other academic professionals in the four University Centers of the State University of New York--Albany, Binghamton, Buffalo, and Stony Brook. The study sought current faculty views on a variety of issues relating to information technology and access, library collections, cooperative collection development, and library resource sharing.

This is one of four research studies carried out between January 1991 and May 1993 by the University Center librarians in collaboration with the Institute for the Study of Information Science, the School of Information Science and Policy, and the Information Science doctoral program at the Nelson A. Rockefeller College of Public Affairs and Policy, University at Albany. This study was supported in part by a cooperative planning grant awarded to the four University Centers by the Council on Library Resources.

I.A Research Library Issues

The endemic problems that have plagued academic and research libraries for the past quarter century are too well known and widely publicized to require extended explication here. They are perceptively summarized in the opening pages of the most recent in a series of reports on the continuing crisis in research libraries:

> The explosion in the quantity of desirable published material and a rapid escalation of unit prices for those items jeopardizes the traditional research library mission of creating and maintaining large self-sufficient collections for their users.... The rapid emergence and development of electronic information technologies make it possible to envision radically different ways of organizing collections and services the library has traditionally provided. Insofar as the finances of collection development approach a crisis, the new technologies offer possible mitigation and perhaps a revolution in ways of knowing. (1) (emphasis that of the original text)

In brief, the libraries of the SUNY University Centers, like their counterparts in the national and international research library communities, are caught between the rising anvil of user expectations and the descending hammer of declining funds with which to meet those rising demands.

While the problems of research libraries are both readily apparent and easily described, the solutions have eluded the managers of those libraries for more than two decades. Those answers are clearly neither easy nor obvious, nor is any single strategy, be it automation, resource sharing, or adoption of less labor-intensive staffing patterns, the "magic bullet" that will restore the nation's research libraries and their collections to robust good health. Indeed, with the continued incremental growth of the published scholarly record, and with each new information technology added onto the existing technologies with which these libraries must somehow cope, the research library simply takes yet another turn for the worse.

I.B Collaborative Planning

One reason that the research library community has made so little progress in resolving the complex issues of supporting an expanding array of information resources and services may be the general failure of university libraries to integrate their internal planning and evaluation processes with those of their parent institutions. Research libraries' strategic planning activities only rarely intersect with key general campuswide faculty and administrative planning and resource allocation groups. Robert Munn's words, written a quarter century ago, remain true today. From the perspective of both the faculty and the university administration, the library is seen as a "bottomless pit." (2)

These, then, are not new problems. What is new are the librarian-administrator-faculty partnerships that the Council on Library Resources (CLR) has helped forge to address these issues. Librarians cannot resolve these problems unilaterally.

Recognizing the need to bring the library into the larger institutionwide planning, budgeting, and accountability contexts, in 1990 the Council on Library Resources invited competitive applications for four $100,000 planning grants "intended to foster policy studies and implementation planning related to future library resources and services." (3)

I.C SUNY University Center Libraries Project

One of the Council's four planning grants was awarded to the University Centers of the State University of New York "to develop and test multi-level committee structures for planning and policy setting related to an integrated acquisitions plan for several universities in a statewide system." (4) Recognizing that "policy must derive from data," the SUNY Consortium's CLR grant proposal envisioned four research studies to be designed and carried out during the two and one-half year timeframe of the grant. Three of these were internal to the four libraries: a collection overlap study; a periodicals use study; and an interlibrary loan survey. The results of these studies are reported elsewhere.

I.D Faculty Needs Assessment

The fourth study, which is the focus of this report, was originally conceived as an examination of "Levels of Need for and Access to Journals." Its original purpose was "to investigate library users' varying levels of need for journal materials." (5) The research reported here evolved from that original concept into a broader, more ambitious, and hopefully more useful, systematic examination of current faculty access to electronic information technology, access to information resources, and current and future expectations in relation to cooperative collection development and sharing of library and information resources.

The details of study design and execution will be found in Chapter II. Here, we will briefly summarize the events during the first fifteen months of the grant (January 1991 to April 1992) that led to the decision to undertake a more ambitious examination of faculty needs and expectations. Fortunately, the four University Center library directors had been meeting on a regular basis for several years prior to the CLR grant. A set of shared goals had been adopted by the four libraries in January 1990 in a document titled "Strategic Directions for Cooperation Among the SUNY University Center Libraries." (6)

Beginning in 1989, the libraries began to plan together for electronic linkages to facilitate resource sharing and cooperative collection development. In 1989, the U.S. Department of Education awarded a Higher Education Act Title II-D grant to the University at Buffalo, on behalf of the four University Center Libraries, "to investigate the viability of using telefacsimile and scanning equipment as the basis for a research information document delivery service among the four University Centers." The resulting study clearly demonstrated that a single collection of mid-use journals could meet the needs of students and faculty on four widely separated research university campuses. (7)

In late fall of 1990, while the Title II-D study was in progress and the planning grant proposal was under consideration by the Council on Library Resources, the SUNY University Center library directors and their staffs began negotiations with online systems vendors to create a transparent electronic bibliographic linkage and gateway among the four campuses to facilitate resource sharing and cooperative collection development. Thus, even before the CLR grant was received, a strong foundation for inter-institutional collaboration existed, and the libraries had demonstrated the ability to find creative technological solutions to the problem of wide geographic dispersion.

The spring and early summer of 1991 were occupied with creating the campus-level infrastructure to support the ambitious CLR grant agenda. A particular focus of attention was a Symposium on Cooperation, scheduled for October 1991 in Albany, which for the first time would bring together administrators, computer specialists, librarians, and faculty from the four campuses. This event was viewed (correctly as it turned out) as the public "kickoff" for the CLR project. It was termed a resounding success by the 108 participants from the four campuses. A day and a half of carefully structured, professionally facilitated discussion produced an ambitious agenda of faculty issues and concerns (see Appendix A).

At a follow-up meeting of the University Center library directors in November 1991, the Symposium outcomes were reviewed. The results were (1) a decision to create a four-campus, faculty-administration Library Policy Advisory Council, which was convened for the first time in the fall of 1992, and (2) the decision to undertake a broadly focused study of faculty needs that would have as its objectives:

1. To produce a needs assessment and inventory of the technologies presently used and/or needed by SUNY faculty and libraries for effective access to electronic information products and networked resources

2. To achieve an awareness of faculty needs and expectations regarding access to electronic and networked information resources

3. To become aware of faculty perceptions of acceptable library or system performance in a resource sharing environment and for an effective document delivery system

4. To sensitize faculty and foster their commitment to resource sharing and document delivery among the SUNY Center libraries. (8)

I.E The Study Team

The Council on Library Resources has long recognized the importance of a multidisciplinary approach to research in the management of university libraries. Through its grants to library and library school research teams, the Council has sought to stimulate what ought to be obvious collaborative opportunities between educators and practitioners.

The present study epitomizes what we believe is the best in that collaborative approach. It is important that the reader understand that this study was not carried out for librarians by classroom academics. Rather, it was designed and conducted by practicing librarians from the University Center libraries, in collaboration with University at Albany faculty who provided technical assistance in study design and carried much of the responsibility for data reduction and preliminary analysis.

In November 1991, following the initial CLR Symposium described above, the four University Center library directors, in their capacity as co-principal investigators for the larger CLR study, created a faculty needs assessment study team consisting of Judith A. Adams, Director, Lockwood Library, University at Buffalo; Sharon C. Bonk, Assistant Director for User Services, University at Albany; Sue R. Faerman, Assistant Professor of Public Administration and Policy, University at Albany; and Thomas J. Galvin, Project Research Director and Professor of Information Science and Policy, University at Albany. The study team was instructed to design and conduct a broadly focused study of faculty needs and expectations on the four University Center campuses.

In April 1992, the team presented a proposal for this study to the directors (see Appendix B). In August 1992, Deborah Lines Andersen, a professional librarian and a doctoral candidate in information science at the University at Albany, joined the team shortly before the survey questionnaire was distributed to faculty and others. This report is the product of that five-person collaboration.

The objective throughout has been to let the librarians and library directors determine the purpose, scope, and character of the study, and to look to them to provide substantive analysis and interpretation of the results. The other team members have sought to limit their individual and collective roles to providing technical support in both the design and data analysis phases, as well as assisting in preparing the final report.

I.F Reporting the Results of the Faculty Needs Assessment

Symposium participants were informed that the faculty needs assessment was being planned in the spring of 1992. In March 1993, the library directors and the members of the Library Policy Council received both written and oral reports based on an initial review of the survey data. Copies of the results of the survey are being provided to the more than 350 respondents on the four campuses who requested them and are widely being distributed to faculty, administrators, and librarians at the University Centers. The results will later be shared with the larger national library and scholarly communities through presentations at professional meetings and articles in professional journals. The four University Center libraries will also receive the data about their own faculty respondents and have the opportunity to use this information for policy decisions and for distribution to their own constituencies.

NOTES

(1) Anthony M. Cummings et al., University Libraries and Scholarly Communication: A Study Prepared for the Andrew W. Mellon Foundation, "Synopsis" by Ann Okerson, Washington, DC: Association of Research Libraries, November 1992, p. xv.

(2) Robert F. Munn, "The bottomless pit, or the academic library as viewed from the administration building," College & Research Libraries, 29 (January 1968), 51-54.

(3) Council on Library Resources, "Setting library policies and priorities in research libraries," Washington, DC; June 27, 1991, press release, p. 1.

(4) Ibid., p. 2.

(5) "Cooperative Planning Grant [Proposal to the Council on Library Resources]; the State University of New York; University Center Libraries at Albany, Binghamton, Buffalo, and Stony Brook," Buffalo, University at Buffalo, October 12, 1990, p. 18.

(6) These earlier activities are more fully described in "Cooperative Planning Grant [Proposal to the Council on Library Resources]; the State University of New York; University Center Libraries at Albany, Binghamton, Buffalo, and Stony Brook," Buffalo, University at Buffalo, October 12, 1990, pp. 15-19.

(7) Robert J. Bertholf, Richard H. Lesniak, Stephen M. Roberts, "Faxing or scanning: Exploring options for research libraries," Final Report, Title II-D Grant, University Center Libraries, State University of New York, October 26, 1992.

(8) "Technology Infrastructure Survey and Resource Sharing Needs Assessment: Proposal to the Library Directors, SUNY University Center Libraries," April 23, 1992.

CHAPTER II

STUDY DESIGN, METHODOLOGY, DEMOGRAPHICS

This study falls squarely into the domain of applied research. Indeed, it is the first step within a subcategory of applied research that is related to evaluation research and is sometimes termed "action research."

> Action Research. Conventional social scientific research is concerned to describe, analyze and explain phenomena. The role of the researcher is detached, in order to minimize disturbance of the phenomena under investigation. In action research, however, the research role is involved and interventionist, because research is joined with action in order to plan, implement and monitor change. Researchers become participants in planned policy initiatives and use their knowledge and research expertise to serve a client organization. (1)

The information that has been gathered will form the basis for policy planning and change within the University Center libraries, continuing the action research that has been started here.

II.A Universe of the Study

The population for this study was defined as "all core teaching faculty, plus selected administrators and professional personnel, and clinical faculty" on all four of the University Center campuses. The study team's rationale for this recommendation follows:

> Because sensitization and fostering commitment of faculty are objectives of the survey, it is believed that surveying the entire faculty is advantageous. Proceeding in this manner will also avoid quibbles with sample methodology and will also lend credence to program development and other actions that might result from the survey as well as CLR grant activities and studies. The cost of surveying the entire teaching population is not prohibitive. (2)

Initially, the study team postulated a target population of approximately 6,000 faculty, administrators, and other academic professionals. Specific recipients of the survey instrument were chosen by the library director and staff of each campus, and they may in part have been determined by local practice in structuring internal mailing lists. A combined total of 3,713 questionnaires was actually distributed on the four campuses.

We recognized at the outset the potential problem of lack of compatibility across the campuses in defining the survey population. The study team concluded that

> Gathering data useful to the individual campuses is considered to be more important than full compatibility of populations across the campuses. All core teaching faculty should be surveyed on the four campuses. Individual campuses can decide if clinical/research faculty should be included. (3)

The number of usable responses, and the results of post hoc tests to determine representativeness of the respondents in relation to the entire survey population, are discussed below in section II.D, "Response Rate and Demographics."

II.B Survey Instrument

The survey instrument, which appears as Appendix C, was designed and piloted by the study team in the spring and summer of 1992. Initially, we sought to identify an existing instrument that had successfully been used elsewhere. After soliciting the assistance of the Association of Research Libraries' Office of Management Studies, and reviewing the recent research literature, no appropriate instrument was found.

The survey instrument went through an iterative design process, resulting in several drafts before the present instrument was created. The usual compromises were necessary between gathering all the data that the librarians would like to have had about their faculty clients and keeping the instrument to a manageable length in order to maximize the response rate.

The instrument was pilot tested with several faculty members on two campuses during the summer of 1992, and changes were made based on their responses.

In the final instrument, the four survey sections are (1) Access to Electronic Technologies and Information Services, (2) Access to Materials, (3) Current and Future Expectations, and (4) Information about You. Following this fourth demographic section was a tear-off sheet, allowing respondents to request a copy of the final project report.

In assessing these data, it is important to understand that this study emerged directly from, and is an intrinsic part of, the larger University Center Libraries' Council on Library Resources library policy development project.

Every research design usually involves compromise. First, research is always limited by finite resources--notably time and money. Both of these limitations influenced the design of this study. Second, every research design and every investigative method has advantages and limitations. There are always choices and options in design, even within the constraint of finite resources.

The design of this study was most strongly influenced by its applied research character. Its objectives, and some of its most important parameters, were determined by the needs of the larger project. In a real sense, the study team functioned as consultants, and the four University Center library directors were our clients. The library directors and the librarian members of the study team specified the goals and objectives of the study, which in turn are reflected in critical design choices, such as the decision to distribute the study instrument to the entire universe of faculty on the four campuses, rather than to a sample drawn from that population.

The study team recognized the importance of being able to make the responses for each campus available to the library director and staff on that campus. The instrument was color coded by campus to facilitate data entry and to expedite the return of the completed questionnaires to each campus after the data entry was completed.

II.C Study Procedure

The survey instrument was distributed to the population of potential respondents with a cover letter from the director of the library of each of the four University Center campuses during the first week of September 1992. This time was chosen because the conventional wisdom is that faculty are more likely to respond to a questionnaire early in the academic year, when they are fresh. Respondents were asked to return the questionnaire by September 30, 1992. The instrument included a final page that gave respondents the opportunity to request copies of the results. This page was detached before data entry in order to preserve the respondents' anonymity. A follow-up postcard was sent to all potential respondents in mid-September in the hope of increasing the number of responses.

Completed questionnaires received up to October 31, 1992 were included in the study.

II.D Response Rate and Demographics

Of the 3,713 potential respondents on all four campuses, 1,032 responses were received during the designated survey-receipt time. Eight surveys were received after the extended receipt date of October 31, and since the data analysis of closed-ended responses had already begun, these were retained for open-ended response materials only. Of the 1,032 completed surveys received, 25 (2.5%) had responses for 50% or less of the requested data and were considered unusable. The final response rate for the survey was 27%, with 1,007 usable surveys received.

The number of surveys sent and received across the four campuses is summarized in Table II.1.

TABLE II.1

CAMPUS SURVEYS SENT AND RECEIVED WITH INDIVIDUAL RESPONSE RATES

	SENT	RECEIVED	RESPONSE %
ALBANY	1,200	295	24.6%
BINGHAMTON	500	134	26.8%
BUFFALO	1,146	352	30.7%
STONY BROOK	867	226	26.1%

To analyze how similar the respondents in this study are to the actual population on the four campuses, the sample population was compared with the actual populations on the four campuses with respect to rank and discipline.

Table II.2 summarizes the academic rank of faculty among (1) the survey respondents (TOTAL SAMPLE), (2) the actual, aggregate populations of the four campuses (ACTUAL POPULATION PARAMETERS), and (3) the individual populations of the four campuses. Approximately 11% of the respondents indicated professional titles that were other than full, associate, or assistant professor, while 2.7% of the respondents

left this item blank. In the table, percentages are based on responses from full, associate, and assistant professors only, (n=869) in order to compare the sample response rate with the population percentages for rank. (4)

TABLE II.2

RESPONDENTS BY RANK, AND ACTUAL POPULATIONS BY RANK

	FULL	ASSOCIATE	ASSISTANT
TOTAL SAMPLE (n=869)	345 39.7%	336 38.6%	188 21.6%
ACTUAL POPULATION PARAMETERS			
ALBANY (n=617)	253	240	124
BINGHAMTON (n=474)	183	187	104
BUFFALO (n=1,271)	502	445	324
STONY BROOK (n=686)	319	204	163
TOTAL (n=3,048)	1,257	1,076	715
(% of 3,048)	41.2%	35.3%	23.5%

TABLE II.3

RESPONSES BY DISCIPLINE, AND ACTUAL POPULATIONS BY DISCIPLINE

	HUMANITIES	SOCIAL SCIENCE	SCIENCE	PROFESSIONAL SCHOOLS	OTHER
TOTAL SURVEY SAMPLE	166	226	244	334	37
(% of 1,007 respondents)	16.5%	22.4%	24.2%	33.2%	3.7%
ACTUAL POPULATION PARAMETERS					
ALBANY	117	199	129	172	
BINGHAMTON	126	140	104	104	
BUFFALO	178	195	154	744	
STONY BROOK	153	165	240	128	
4-CAMPUS TOTAL	574	699	627	1,148	
(% of 3,048 actual faculty)	18.8%	22.9%	20.5%	37.6%	

The percentages of faculty responses by rank, and the percentages of actual faculty on the four campuses are displayed in bold type in Table II.2. A chi-square analysis shows that the percentage differences in the sample and the population distributions across the three faculty ranks are non-significant.

Table II.3 summarizes the academic disciplines of respondents, dividing them into the four broad categories of (1) Humanities, (2) Social Science, (3) Science, and (4) Professional Schools. As in the preceding table, the sample data statistics are compared with the actual population for the four University Centers, individually and in aggregate form. (5)

As with the percentages for rank, the discipline percentages (compare percentage totals in bold type) are within four percentage points of each other for all disciplines. A chi-square analysis, however, shows that there are significant differences in sample and population distributions across the four disciplinary areas, with Professional Schools slightly underrepresented and Science slightly overrepresented. We believe that while these differences may be reflective of differential interest, they are not large enough to argue that the survey sample does not represent the population on the four campuses, taken as a whole, for both rank and discipline. Care should be taken in the analysis, however, to recognize this deviation from the population distribution.

TABLE II.4

RESPONDENTS BY ACADEMIC DISCIPLINE

Area	# Responses	Discipline
Architecture/Design	5	Professional School
Area Studies	6	Social Science
Biological Studies	90	Science
Business/Management	38	Professional School
Communications	7	Social Science
Computer/Information Science	25	Science
Education	54	Professional School
Engineering	50	Professional School
Fine and Applied Arts	46	Humanities
Foreign Languages	42	Humanities
Health Professions	93	Professional School
Law	6	Professional School
Letters	78	Humanities
Library Science	52	Professional School
Mathematics	45	Science
Military Science	1	Social Science
Physical Sciences	84	Science
Psychology	52	Social Science
Public Affairs/Service	36	Professional School
Social Science	160	Social Science
Administrative/Non-teaching	18	Other
No response to question	19	

Table II.4 provides a breakdown of the survey population by academic departments, noting the disciplinary category in which the respondents have been placed. The number associated with each academic department is the number of respondents who indicated

BEST COPY AVAILABLE

that this was their major departmental home. Note that 19 respondents left the department blank on their survey form.

Table II.5 looks at the distribution of respondents by years of post-secondary teaching experiences. The data have been aggregated into five-year groups (i.e., 1 to 5, 6-10). The actual years of teaching experience range from 1 to 52 years, with a median of 16 years. Interestingly, the mode of the distribution is 25 years, with 76 respondents. Data were not available to compare these sample statistics with the population parameters.

TABLE II.5

YEARS OF TEACHING EXPERIENCE

Years	Response (%)	
<6	151	(15%)
6-10	150	(14.9%)
11-15	138	(13.7%)
16-20	127	(12.6%)
21-25	135	(13.4%)
26-30	117	(11.6%)
31-35	44	(4.4%)
36-40	17	(1.7%)
40-52	10	(1%)
No response	118	(11.7%)

NOTES

(1) The Penguin Dictionary of Sociology. Nicholas Abercrombie et al., eds. London: Penguin Group, 1988, p. 2.

(2) "Technology Infrastructure Survey and Resource Sharing Needs Assessment: Proposal to the Library Directors, SUNY University Center Libraries," April 23, 1992.

(3) Ibid.

(4) The figures for this table were gathered from the following campus documents: Albany (August 1992), "Program for Reading Personnel Extract." Office of Institutional Research, SUNY Albany. Binghamton (undated), Untitled, computer listing of faculty counts, SUNY Binghamton. Buffalo (March 1992), "Fall 1991; Headcount Faculty." Office of Institutional Studies, SUNY Buffalo. Stony Brook (Spring 1991), "Main Campus FT Faculty and Tenure Rates," SUNY Stony Brook.

(5) Ibid.

CHAPTER III

ACCESS TO ELECTRONIC TECHNOLOGIES AND INFORMATION SERVICES

The initial section of the Faculty Needs Assessment serves three purposes: to survey the availability to SUNY University Centers' faculty of equipment necessary to access electronic information, to measure faculty use of information resources available through networks, and to determine obstacles to the use of electronic information technologies and services as well as factors that might stimulate access to and use of such resources.

In addition to documenting the availability of computer equipment to respondents and their use of networked electronic resources, the data collected also report the locations from which faculty access electronic information, that is, within the library or from the "remote" sites of office or home. When combined with certain demographic and personal characteristics of the respondents, the data address patterns of access and use of electronic resources across the disciplines and according to faculty rank. Perceptions of obstacles to or factors that increase the use of these resources suggest directions for the enhancement of campus networks, and the development of library services in support of faculty needs and information-seeking patterns in the electronic environment.

III.A Faculty Access to Hardware and Software

The first question in this part of the survey addresses the availability of specific computer equipment and software in office and home. The items included facilitate access to and use of electronic networks and information. Table III.1 indicates the percentage of SUNY Centers' survey respondents who have or do not have the equipment.

TABLE III.1

PERCENTAGE OF SUNY CENTERS SURVEY RESPONDENTS WITH ACCESS TO ELECTRONIC EQUIPMENT AT OFFICE AND HOME

	OFFICE		HOME	
	Yes	No	Yes	No
PERSONAL COMPUTER	84.0	15.9	80.8	18.9
COMMUNICATIONS MODEM/SOFTWARE	55.4	44.1	53.4	46.2
CONNECTION TO CAMPUS NETWORK	66.5	33.3	29.6	69.9
PRINTER	78.8	21.1	69.4	30.2
FAX MACHINE	56.8	43.4	10.1	89.4
CD-ROM PLAYER CONNECT TO COMPUTER	9.6	90.2	2.3	97.2

Note: Percentages may not equal 100 percent in cases where respondents did not answer a particular question.

More than 95% of the survey respondents have a personal computer in either office or home. This widespread availability of computers indicates that most of the respondents have some of the primary equipment necessary to use electronic networks and information resources. Almost three quarters of the respondents also already have communications capability from their office or home. The percentage of office computers connected to the campus network drops to 66.5%, which indicates a need for improvement in campus networking at the University Centers in order to facilitate access to electronic resources. The relatively low percentage of respondents indicating the ability to connect to the campus network from home, 29.6%, is noteworthy, since 53.4% state that they have a modem and communications software for their home computer. This equipment and software should be sufficient to achieve connection with the campus system. Some respondents are perhaps unaware of procedures to connect to the campus systems, or their communications software may not be configured for this purpose or may not be compatible with the campus system.

While the overall availability of computer and communications equipment is high among all of those responding, there are significant differences in availability of these resources among the disciplines. Tables III.2 and III.3 delineate access to this equipment across the major academic disciplines and the professional schools.

TABLE III.2

PERCENTAGE OF FACULTY RESPONDENTS, BY DISCIPLINE, WITH ACCESS TO ELECTRONIC EQUIPMENT AT THEIR OFFICE

	HUMANITIES	SOCIAL SCIENCE	SCIENCE	PROFESSIONAL SCHOOLS
PERSONAL COMPUTER	55.4	84.5	91.4	91.6
COMMUNICATIONS MODEM/SOFTWARE	29.5	51.3	71.3	58.4
CONNECTION TO CAMPUS NETWORK	34.3	63.3	84.0	71.7
PRINTER	46.4	80.1	87.7	86.8
FAX MACHINE	27.7	56.2	62.3	65.1
CD-ROM PLAYER CONNECTED TO COMPUTER	4.8	6.6	14.8	11.1

The comparative lack of availability of electronic and communications equipment to faculty in the Humanities in contrast to the other disciplines is significant and worthy of attention. Only 55.4% of faculty in the Humanities have a personal computer in their office. In Social Science, 84.5% of faculty have office computers, and in Science and the Professional Schools, over 90% of faculty have this equipment in their office.

Present trends in scholarship and publishing in the Humanities make access to electronic resources essential for research and teaching. Reliance on full-text databases (e.g., Thesaurus Lingua Graecae, Dante Project, ARTFL), electronic texts available through the Internet, electronic journals, listserves for informal communication, and electronic interactive media programs increases the need for these services and the information technology to support them.

The situation for Humanities faculty is made more difficult by the comparative lack of electronic communications modems, software and connection to campus networks from their office. There is rather wide disparity among the disciplines in regard to these two capabilities, but Humanities faculty are distinctly at the low end. While 29.5% of faculty respondents in the Humanities have communications capability in their office, 51.3% of faculty in Social Science, 58.4% of faculty in the Professional Schools, and a relatively high 71.3% of faculty in Science have such capabilities.

The percentage of Humanities faculty with connectivity to the campus network is comparatively even lower. Only 34.3% of respondents in the Humanities are connected to the campus network, while in the other disciplines and the Professional Schools the percentages are generally more than double that. Specifically, 63.3% in the Social Science and 71.7% in the Professional Schools are connected to the campus network, and, again, the Science connections are the highest at 84%.

TABLE III.3

PERCENTAGE OF FACULTY RESPONDENTS, BY DISCIPLINE, WITH ACCESS TO ELECTRONIC EQUIPMENT AT THEIR HOME

	HUMANITIES	SOCIAL SCIENCE	SCIENCE	PROFESSIONAL SCHOOLS
PERSONAL COMPUTER	78.9	82.2	82.0	81.3
COMMUNICATIONS MODEM/SOFTWARE	45.5	56.0	59.8	52.4
CONNECTION TO CAMPUS NETWORK	31.5	33.5	31.6	26.2
PRINTER	71.5	74.2	62.7	71.7
FAX MACHINE	17.0	10.7	3.32	11.7
CD-ROM PLAYER CONNECTED TO COMPUTER	4.2	1.3	2.9	1.8

There are various possible reasons for the comparatively low level of availability of this equipment to faculty in the Humanities. Among the possibilities are lack of resources in the Humanities schools/departments, the relative recency of trends toward reliance on electronic resources for Humanities scholarship and teaching, the placement of lower

priority on the Humanities by campus administrations for access to computer resources and equipment, and personal preferences for the methodology of scholarship and teaching by Humanities faculty.

The last reason listed above, personal preferences of Humanities faculty, seems less likely to be an operative cause, since the data indicate that Humanities faculty have compensated for lack of equipment and connectivity in their offices by personally acquiring needed resources for their homes. The percentage of Humanities faculty with personal computers in their home rises considerably to 78.9%. It is noteworthy that in the other disciplines and the Professional Schools, the percentage of faculty with computers at home is less than the percentage with this equipment at their office. Apparently, Humanities faculty cannot rely to the same extent as faculty in other disciplines on their institution to provide computer and electronic communications resources.

Availability of FAX machines to Humanities faculty in the office setting is also dramatically low when compared with other disciplines. Only 27.7% of Humanities respondents have access to a FAX machine at their office, as compared with 56.2% in Social Science, 62.3% in Science, and 65.1% in the Professional Schools. Again, Humanities faculty have compensated by acquiring FAX machines for home use. A noticeably high 17% of Humanities respondents have a personal FAX machine, while the percentages of faculty in the other disciplines owning personal FAX machines are much lower: 3.3% in Science, 10.7% in Social Science, and 11.7% in the Professional Schools. Very few faculty report the ownership of CD-ROM players for connection to their home computers, but again, a higher percentage of Humanities faculty have acquired this equipment for use at home.

Although inequities in access to computer and communications equipment are striking among the disciplines, differences are minimal among the faculty ranks of professor, associate professor, and assistant professor. Availability of equipment is generally equal across the ranks, for both office and home locations. The responses appear to refute a general assumption that junior faculty are more likely to own and use computer equipment and electronic resources than are senior faculty. Assistant professors report only slightly higher availability of personal computers, communications equipment, and connectivity to campus networks at the office location than do their colleagues holding higher ranks. The availability of this equipment to assistant professors at home, while still similar to that of their colleagues, is slightly lower than for associate professors and professors.

Several distinctions among the ranks are noteworthy. The percentage of assistant professors reporting access to a CD-ROM player attached to a computer at the office location is twice as high as for faculty at the other ranks--15.1% of assistant professors, as compared with 7.7% of associate professors, and 7% percent of full professors. In contrast, availability of a FAX machine at home rises with rank. Approximately 8% of assistant professors and associate professors have FAX machines at home, while 15.5% of full professors own personal FAX machines.

III.B Levels of Use of Electronic Information Sources

The second question in this part of the survey examines the level of use of various information resources available through electronic networks, and the locations where that use occurs. Responses should be indicative of present faculty interest, reliance, and need for these resources. Table III.4 lists the specific information resources and the percentages of respondents reporting various levels of frequency of use.

TABLE III.4

FREQUENCY OF USE OF ELECTRONIC INFORMATION RESOURCES, PERCENTAGE OF RESPONDENTS REPORTING EACH LEVEL OF USE

INFORMATION RESOURCE	DAILY	WEEKLY	MONTHLY	INFREQ	NEVER
CAMPUS LIBRARY ONLINE CATALOG	12.4	38.6	25.3	14.2	7.7
OTHER LIBRARIES' ONLINE CATALOGS	1.6	7.4	13.4	28.4	47.0
INDEX/ABSTRACT DATABASES ON CAMPUS ONLINE CATALOG	2.9	15.1	20.6	29.3	29.4
INDEX/ABSTRACT DATABASES VIA COMMERCIAL VENDOR	1.3	6.0	6.5	15.6	68.4
DISCIPLINE-BASED ELECTRONIC BULLETIN BOARDS, LISTSERVES	13.0	7.6	4.4	13.4	58.9
ELECTRONIC JOURNALS, NEWSLETTERS	3.3	6.8	4.0	14.7	68.0
ELECTRONIC MAIL	48.1	11.3	3.0	9.8	25.8
FULL-TEXT ELECTRONIC DATABASES	1.6	3.1	2.1	9.4	80.5
STATISTICAL DATABASES	.8	2.1	2.6	11.5	80.3
CD-ROM INDEX/ABSTRACT DATABASES IN LIBRARY	2.6	10.0	17.1	21.4	46.6

The responses reveal that the electronic information resource used by the largest percentage of faculty respondents at the present time is the campus library online catalog. Electronic mail is the next most widely used resource, and the frequency of its use is far greater than that of any of the remaining electronic resources. Nearly half of the respondents use electronic mail daily, making it a most compelling resource for faculty. Use of journal index/abstract databases that are loaded on campus online catalogs can be categorized as moderate, despite quite limited offerings at the time of the survey.

In contrast, the level of use of journal index/abstract databases available via commercial vendors (generally requiring payment of fees) is relatively low. Searching of

BEST COPY AVAILABLE

the online catalogs of other libraries is moderately extensive but quite infrequent. The same is true for faculty use of CD-ROM index/abstract databases available on dedicated computer stations in the libraries. Discipline-based electronic bulletin boards and listserves are used by a lower percentage of respondents than previously mentioned resources, but the frequency of use by those involved is relatively high.

At present, few respondents are using electronic journals, full-text electronic databases, or statistical databases.

Electronic networks provide opportunities to use information resources from locations remote from libraries, primarily offices and homes. The survey asked respondents to indicate the locations from which they access electronic information resources. Table III.5 lists various electronic resources and the percentage of respondents (n = 1007) who use these resources within the libraries and/or at the office/home. Respondents could indicate use in one or both locations.

TABLE III.5

LOCATION OF USE OF ELECTRONIC RESOURCES, PERCENTAGE OF RESPONDENTS INDICATING THEY USE THE RESOURCE AT EACH LOCATION

INFORMATION RESOURCE	AT LIBRARY	AT OFFICE/ HOME
CAMPUS LIBRARY ONLINE CATALOG	71.2	51.1
OTHER LIBRARIES' ONLINE CATALOG	34.1	22.2
INDEX/ABSTRACTS DATABASES ON CAMPUS ONLINE CATALOG	52.8	21.8
INDEX/ABSTRACTS DATABASES VIA COMMERCIAL VENDOR	17.3	13.3
DISCIPLINE-BASED ELECTRONIC BULLETIN BOARDS, LISTSERVES-	9.7	31.2
ELECTRONIC JOURNALS, NEWSLETTERS	7.8	23.4
ELECTRONIC MAIL	17.3	60.6
FULL-TEXT ELECTRONIC DATABASES	9.3	10.1
STATISTICAL DATABASES	8.6	10.2
CD-ROM INDEX/ABSTRACT DATABASES AVAILABLE IN LIBRARY	43.8	6.3

Over half the respondents access the library online catalog and electronic mail from their home or office. The electronic resources most heavily utilized within the libraries at present are the library online catalog, the journal index/abstract databases loaded on the

library online catalog, the CD-ROM databases on dedicated computer stations in the libraries, and the online catalogs of other libraries. The SUNY University Center libraries now have few, if any, computer stations for public use to access electronic mail, electronic journals, online catalogs of other libraries, discipline-related bulletin boards and listserves, and full-text databases. Some respondents indicating use of other libraries' online catalogs from the library location (34.1%) may have been referring to bibliographic utilities such as OCLC and RLIN.

Generally, faculty indicate that there is widespread interest in accessing electronic resources from office and home. Convenience and the saving of time required to make trips to the library are reasons for growing interest in the use of the electronic resources. Full-text and statistical databases can require, however, extensive time, concentration, and manipulation for effective use. Electronic mail, electronic journals, and bulletin boards demand frequent contact and use. In the aggregate, SUNY University Centers' faculty respondents are not yet using some electronic resources to a significant extent, specifically, databases, electronic journals, and journal indexes and abstracts.

TABLE III.6

LOCATION AND FREQUENCY OF USE OF INFORMATION RESOURCES AVAILABLE THROUGH NETWORKS: ONLINE CATALOGS

	FREQUENCY OF USE			LOCATION	
ITEM	DAILY OR WEEKLY	MONTHLY	INFREQUENTLY OR NEVER	LIBRARY	HOME/ OFFICE
A. CAMPUS ONLINE CATALOG					
TOTAL	51.0	25.3	21.9	71.2	51.1
DISCIPLINE:					
HUMANITIES	67.5	14.4	18.1	70.5	40.4
SOCIAL SCIENCE	57.7	25.5	16.8	70.4	56.6
SCIENCE	47.7	26.7	25.5	70.5	53.7
PROFESSIONAL SCHOOLS	46.0	29.4	24.6	74.0	51.5
RANK:					
FULL	49.2	27.8	23.1	71.0	49.0
ASSOCIATE	53.9	22.9	23.2	71.1	51.5
ASSISTANT	58.9	22.7	18.4	71.3	54.8
B. OTHER CAMPUSES' ONLINE CATALOGS					
TOTAL	9.0	13.4	75.4	34.1	22.2
DISCIPLINE:					
HUMANITIES	15.1	15.7	69.2	32.5	26.5
SOCIAL SCIENCE	8.7	16.5	74.7	35.8	25.7
SCIENCE	5.4	13.6	82.4	27.0	20.1
PROFESSIONAL SCHOOLS	10.0	11.2	83.7	38.9	20.1
RANK:					
FULL	10.1	11.0	78.9	34.2	20.9
ASSOCIATE	7.0	13.3	79.7	30.7	22.6
ASSISTANT	11.4	19.0	69.6	36.7	25.0

Examination of responses tabulated by discipline and rank shows some significant deviations from the aggregate results. These are summarized in Tables III.6 through III.9. The ranges of frequency of use have been combined to include "daily" and "weekly" in one category, and "infrequently" and "never" in another category. Location of use has been included in each table.

Table III.6 looks at respondents' use of online catalogs, both on their own and on other campuses. Humanities faculty are by far the greatest users of on-campus, online catalogs on a daily or weekly basis, while Science faculty use this information resource least of the disciplinary groups. By rank, use on a daily or weekly basis is an inverse of rank, with assistant professors almost 10 percentage points ahead of their full professor colleagues.

For other campuses' online catalogs the percentage of use across all disciplines and ranks is much less than for on-campus catalogs, but Humanities faculty are still the greatest users of this resources, Science faculty the least, and assistant professors slightly greater users than their full and associate professor colleagues.

Table III.7 identifies respondents' use of journal indexing and abstracting services online, via commercial vendor and on CD-ROMs. In all three areas assistant professors continue to use the information resource more than their full and associate professor colleagues on a daily or weekly basis. Professional School faculty appear to be the greatest user of online and CD-ROM indexing and abstracting services, while Science faculty use commercial vendors slightly more than those faculty in other disciplines.

TABLE III.7

LOCATION AND FREQUENCY OF USE OF INFORMATION RESOURCES AVAILABLE THROUGH NETWORKS: JOURNAL INDEXES AND ABSTRACTS

	FREQUENCY OF USE			LOCATION	
ITEM	DAILY OR WEEKLY	MONTHLY	INFREQUENTLY OR NEVER	LIBRARY	HOME/ OFFICE
C. INDEX/ABSTRACTS ON ONLINE CATALOG					
TOTAL	18.0	20.6	58.7	52.8	21.8
DISCIPLINE:					
HUMANITIES	11.4	19.5	69.2	45.8	10.2
SOCIAL SCIENCE	13.0	20.9	66.0	55.3	20.8
SCIENCE	18.8	20.4	60.9	42.2	25.0
PROFESSIONAL SCHOOLS	25.6	21.6	52.9	61.7	25.4
RANK:					
FULL	15.8	20.8	63.3	51.3	22.6
ASSOCIATE	15.8	21.3	62.8	51.8	21.4
ASSISTANT	29.3	18.8	51.9	55.9	20.2
D. INDEX/ABSTRACTS VIA COMMERCIAL VENDOR					
TOTAL	7.3	6.5	84.0	17.3	13.3
DISCIPLINE:					
HUMANITIES	3.1	6.9	90.0	12.0	7.2
SOCIAL SCIENCE	4.1	5.9	90.0	13.7	11.5
SCIENCE	10.4	7.1	82.6	13.1	20.9
PROFESSIONAL SCHOOLS	9.7	6.7	83.5	24.6	12.0
RANK:					
FULL	6.6	6.5	86.9	16.2	13.3
ASSOCIATE	6.7	6.7	86.6	17.6	13.1
ASSISTANT	8.6	9.1	82.2	19.7	16.5
J. INDEX/ABSTRACTS ON CD-ROM IN LIBRARY					
TOTAL	12.6	17.1	68.0	43.8	6.3
DISCIPLINE:					
HUMANITIES	8.2	15.1	76.7	34.9	4.2
SOCIAL SCIENCE	8.3	18.0	73.8	41.2	4.0
SCIENCE	11.3	16.1	72.7	37.3	7.8
PROFESSIONAL SCHOOLS	20.7	19.5	59.9	54.8	8.1
RANK:					
FULL	10.5	15.3	74.3	35.1	6.7
ASSOCIATE	12.7	17.3	69.9	45.8	6.0
ASSISTANT	16.6	22.6	60.7	52.1	8.5

NOTE: Items on the survey instrument have been displayed out of order in this table in order to group all items relating to indexing and abstracting services.

TABLE III.8

LOCATION AND FREQUENCY OF USE OF INFORMATION RESOURCES AVAILABLE THROUGH NETWORKS: BULLETIN BOARDS, ELECTRONIC JOURNALS, ELECTRONIC MAIL

	FREQUENCY OF USE			LOCATION	
ITEM	DAILY OR WEEKLY	MONTHLY	INFREQUENTLY OR NEVER	LIBRARY	HOME/ OFFICE
E. BULLETIN BOARDS/ LISTSERVES					
TOTAL	20.6	4.4	72.3	9.7	31.2
DISCIPLINE:					
HUMANITIES	20.1	3.1	76.7	5.4	26.5
SOCIAL SCIENCE	16.5	3.2	80.3	8.0	27.0
SCIENCE	31.3	6.7	62.1	9.0	41.8
PROFESSIONAL SCHOOLS	18.6	3.7	77.8	13.2	29.9
RANK:					
FULL	17.1	3.9	79.1	9.6	29.3
ASSOCIATE	21.1	4.6	74.3	8.0	30.7
ASSISTANT	24.2	4.3	71.5	11.7	33.5
F. ELECTRONIC JOURNALS/ NEWSLETTERS					
TOTAL	10.1	4.0	82.7	7.8	23.4
DISCIPLINE:					
HUMANITIES	8.9	4.4	86.7	6.0	19.9
SOCIAL SCIENCE	8.3	2.3	89.4	6.2	22.1
SCIENCE	15.6	5.8	78.6	7.4	34.4
PROFESSIONAL SCHOOLS	7.8	3.7	88.5	9.3	18.9
RANK:					
FULL	8.4	3.3	88.3	7.2	23.5
ASSOCIATE	10.2	3.1	86.8	7.7	21.7
ASSISTANT	13.5	5.4	81.1	9.0	27.7
G. ELECTRONIC MAIL					
TOTAL	59.4	3.0	35.6	17.3	60.6
DISCIPLINE:					
HUMANITIES	41.9	1.9	56.2	9.0	44.6
SOCIAL SCIENCE	61.7	4.1	34.2	18.6	61.5
SCIENCE	75.6	3.7	20.6	20.1	73.8
PROFESSIONAL SCHOOLS	57.8	2.4	39.9	18.9	56.9
RANK:					
FULL	58.3	2.1	39.7	19.7	55.9
ASSOCIATE	57.5	4.0	38.6	15.8	40.2
ASSISTANT	64.0	3.8	32.3	13.3	33.5

Table III.8 summarizes responses to the survey question concerning electronic bulletin boards, electronic journals and electronic mail. Science faculty use these information resources more frequently than do other disciplines. Assistant professors continue to report greater use of each resource than their full and associate professor counterparts.

Table III.9 focuses on the use of databases. It reflects the lowest rate of daily or weekly use of an information resource of any item in this section. Full text databases are used most by Professional School faculty (6.5%), followed by Humanities (5.9%). Statistical databases are used most by Social Science faculty (5%). Assistant professors continue to be the greatest users of these resources by rank, but the percentages are extremely small, never ranging above 6.5% for daily or weekly use of databases.

TABLE III.9

LOCATION AND FREQUENCY OF USE OF INFORMATION RESOURCES AVAILABLE THROUGH NETWORKS: DATABASES

	FREQUENCY OF USE			LOCATION	
ITEM	DAILY OR WEEKLY	MONTHLY	INFREQUENTLY OR NEVER	LIBRARY	HOME/ OFFICE
H. FULL TEXT DATABASES					
TOTAL	4.7	2.1	89.9	9.3	10.1
DISCIPLINE:					
HUMANITIES	5.0	3.2	91.8	7.8	14.5
SOCIAL SCIENCE	3.7	.9	95.3	8.0	6.6
SCIENCE	3.3	.4	96.3	4.5	8.2
PROFESSIONAL SCHOOLS	6.5	3.7	89.8	14.4	11.7
RANK:					
FULL	4.5	1.2	94.3	6.7	10.1
ASSOCIATE	3.7	.9	95.4	10.7	9.5
ASSISTANT	5.4	4.9	89.7	8.0	11.2
I. STATISTICAL DATABASES					
TOTAL	2.9	2.6	91.8	8.6	10.2
DISCIPLINE:					
HUMANITIES	.6	.6	98.7	2.4	4.2
SOCIAL SCIENCE	5.0	6.5	88.5	11.1.	17.7
SCIENCE	2.0	.4	97.6	4.9	7.0
PROFESSIONAL SCHOOLS	3.3	2.8	93.9	12.6	10.5
RANK:					
FULL	3.0	1.8	95.3	7.5	8.4
ASSOCIATE	3.1	1.5	96.3	9.5	6.5
ASSISTANT	4.3	5.9	89.8	9.6	17.3

III.C Electronic Information Sources Currently Used

The third question in this section asks faculty which electronic information sources (e.g., electronic databases, full text files, CD-ROM databases or electronic journals) they currently use for teaching and research. Exactly half of the respondents indicated that they use electronic information sources. Table III.10 indicates the use in each disciplinary group, and Table III.11 reports faculty use of electronic databases by rank.

TABLE III.10

USE OF ELECTRONIC DATABASES, ELECTRONIC JOURNALS, ETC., BY DISCIPLINE, PERCENTAGE OF RESPONDENTS

	USE	DO NOT USE
HUMANITIES	43.4	56.6
SOCIAL SCIENCE	47.3	52.7
SCIENCE	49.2	50.8
PROFESSIONAL SCHOOLS	57.2	42.8

TABLE III.11

USE OF ELECTRONIC DATABASES, ELECTRONIC JOURNALS, ETC., BY FACULTY RANK, PERCENTAGE OF RESPONDENTS

	USE	DO NOT USE
FULL PROFESSOR	44.1	55.9
ASSOCIATE PROFESSOR	49.7	50.3
ASSISTANT PROFESSOR	62.2	37.8

There are obvious differences in use of electronic information sources by discipline and by rank. Junior faculty are more involved with these resources than are associate or full professors. The Professional School faculty utilize electronic information sources to a higher extent than faculty in the academic disciplines.

There were 189 different electronic information sources listed by the respondents. Similar to the use of traditional research library resources, however, use of information sources clusters in what at first glance resembles a Bradford distribution, (i.e., a small number of databases account for the greatest number of faculty uses). Table III.12 lists those databases used by five or more respondents and the number of respondents using each.

TABLE III.12

ELECTRONIC INFORMATION SOURCES USED BY SURVEY RESPONDENTS

ERIC	55
Medline	47
PsychLit	45
ICPSR files	31
Census, U.S.	30
Genbank	26
MLA Bibliography	24
Mini-Medline	20
Current Contents	16
Chemical Abstracts	14
U.S. Geological Survey data	14
ABI Inform	13
LEXIS	13
Science Citation Index	13
Compustat	12
NEXIS	12
Reference Update	12
PAIS	10
Georef	9
NOAA Data	8
ARTFL	7
CINAHL	7
Dissertation Abstracts	7
ASFA: Aquatic Sciences & Fisheries Abstracts	6
Business Index	6
Post Modern Culture	6
Social Science Index	6
Disclosure	5
EMBL	5
RLIN	5
Social Work Research and Abstracts	5

Some of the information sources mentioned by numerous respondents could be targets for possible University Center and/or SUNY-wide licensing agreements and networking arrangements, in order to lower costs throughout the SUNY system.

III.D Obstacles to Use of Electronic Information Technology

Perceived obstacles to the use of electronic information technology and resources are addressed by the fourth question in this section. The survey listed seven possible obstacles and also provided an "other" category where respondents could write in additional obstacles. Respondents were asked to indicate all obstacles that apply. Table III.13 lists the various possible obstacles and the percentage of respondents in each discipline finding the obstacles applicable.

TABLE III.13

OBSTACLES TO USE OF ELECTRONIC INFORMATION TECHNOLOGY AND RESOURCES BY DISCIPLINE, PERCENTAGE OF RESPONDENTS INDICATING OBSTACLE IS APPLICABLE

	HUMANITIES	SOCIAL SCIENCE	SCIENCE	PROFESSIONAL SCHOOLS	TOTAL
LACK HARDWARE	41.0	27.9	13.1	24.6	25.6
LACK SOFTWARE	36.7	25.7	13.9	22.2	23.5
LACK TRAINING	59.0	53.1	32.8	49.9	48.5
LACK INFORMATION ON DATABASES	60.2	73.0	60.2	54.2	61.5
LACK OPERATING FUNDS	44.0	44.7	41.4	35.3	40.7
LACK INTEREST OR NEED	12.7	9.7	15.2	7.8	11.0
LACK TIME	24.1	22.1	26.2	32.0	26.6
OTHER	12.7	8.4	6.1	6.6	7.8

The responses indicate that the greatest obstacles perceived by faculty to their use of electronic technologies and resources are lack of training and lack of information on relevant electronic resources. Surprisingly, lack of operating funds ranks a somewhat distant third. There are some distinctions among the disciplines. Faculty in the Humanities find lack of hardware and software to be much greater obstacles than do faculty in Social Science and Professional Schools. In the Sciences, faculty indicate that these two obstacles are relatively less important. Faculty in all the disciplines clearly recognize the need to utilize electronic resources and express strong interest in them.

"Lack of time" is not considered to be a major obstacle in the Humanities, Social Science, and Science. Faculty in the Professional Schools find lack of time to be a more important factor. The responses clearly indicate roles for libraries in the development of training programs as well as the provision and dissemination of information about specific electronic databases. There were no consistent responses in the open-ended, "other" category of this question.

III.E Factors to Increase Use of Electronic Technologies

Factors which might stimulate and increase faculty use of electronic technologies are the subject of the fifth question in this section. Eight factors were listed in the survey, and as in Question 4, an "other" category was provided where respondents could write in additional factors. Respondents were asked to indicate all applicable factors. Table III.14

BEST COPY AVAILABLE

lists the various factors that could stimulate use of electronic technologies and services, and the percentage of respondents in each discipline finding the factors applicable.

TABLE III.14

FACTORS THAT MIGHT INCREASE USE OF ELECTRONIC TECHNOLOGIES/SERVICES BY DISCIPLINE, PERCENTAGE OF RESPONDENTS INDICATING FACTOR IS APPLICABLE

	HUMANITIES	SOCIAL SCIENCE	SCIENCE	PROFESSIONAL SCHOOLS	TOTAL
COMPUTER EQUIPMENT IN OFFICE/HOME	50.6	24.8	12.3	26.0	26.6
CONNECTION TO CAMPUS NETWORK	50.6	31.4	15.2	29.3	30.1
ACCESS TO DATA VIA CAMPUS NETWORK	51.8	40.3	26.6	39.2	38.9
INFORMATION ABOUT DATABASES/RESOURCES	64.5	69.9	64.4	61.7	65.5
TRAINING IN USE OF EQUIPMENT	41.0	35.0	20.1	36.8	33.1
TRAINING IN USE OF E-MAIL, NETWORKS	47.0	52.2	34.0	51.2	47.0
FUNDING	41.0	36.3	37.7	33.8	36.4
DISCIPLINARY TRENDS OR REQUIREMENTS	14.5	5.3	11.9	10.8	10.5
OTHER	8.4	4.4	4.9	6.3	6.0

Information about specific electronic information resources and training in the use of electronic mail, networks, and electronic databases are considered the major factors that would stimulate or increase faculty use of electronic technologies and services. The responses to this question, as well as to the preceding question, strongly point to important expanding roles for libraries in providing both training related to networked resources and information about specific resources. Faculty in the Humanities to a much higher degree than faculty in the other disciplines consider the availability of computer equipment in the office or home, connectivity to the campus network, and access to databases via the campus network to be major factors that would foster their use of electronic resources.

Disciplinary trends requiring the use of electronic technologies and resources for teaching and scholarship seem to have already established themselves and have previously been recognized by faculty. It seems that these trends are no longer exerting significant pressure on faculty to further increase their use of electronic resources.

III.F Training Modes Preferred by Faculty

The final question in the first section of the survey, queries respondents about their preferences for types of training. Respondents were asked to choose three of seven training options. Table III.15 lists these, with the percentage of respondents indicating preferences for each type. Faculty were asked to check no more than three options, although some ignored that directive. All responses have been analyzed in Table III.15.

TABLE III.15

TYPES OF TRAINING PREFERRED BY FACULTY IN EACH DISCIPLINE, PERCENTAGE OF FACULTY INDICATING PREFERENCE FOR EACH TYPE

	HUMANITIES	SOCIAL SCIENCE	SCIENCE	PROFESSIONAL SCHOOLS
SMALL GROUP CLASS/WORKSHOP	50.6	51.8	35.7	61.1
PRINTED MANUALS	42.2	57.5	63.1	51.5
FORMAL CLASSES	6.0	5.3	4.1	6.3
ONE-ON-ONE TUTORIALS	39.2	29.2	15.6	26.3
TELEPHONE ASSISTANCE	41.0	34.1	24.2	29.3
ONLINE TUTORIALS	31.9	35.0	37.7	41.6
ASSISTANCE VIA E-MAIL	17.5	26.1	31.1	20.7

Some noteworthy distinctions in training preferences among the various disciplines indicate that several types of training options should be made available to faculty. It is clear that faculty consider formal classes to be the least-attractive training mode. While most faculty indicate a preference for small-group classes or workshops, those in Science find this option markedly less appealing, preferring instead printed manuals. Among these options, small-group classes and printed manuals generally hold the highest appeal, with online tutorials a third area consistently chosen across the disciplines.

III.G Open-ended Response Questions That Pertain to This Section

Many of the open-ended responses that were given in the last section of the survey pertain to access to electronic information technologies and services. Some individuals commented upon the services they presently use.

"Electronic data retrieval in chemistry is great, but very, very expensive. Structure searches can cost $300 per search (before discounts). It is so expensive students cannot routinely use these systems. Our group spends ca. $500 per year (10% of real charge for **Chemical Abstracts** per year). If students used the search capabilities we have cost would go over $3,000 - $4,000."

"I use mini-Medline quite often and find it very helpful. I also scan **Current Contents** and then look up the articles I want to see. Thus my preferences are for a strong print collection with continued or expanded mini-Medline services."

"The Humanities faculty have been short-changed in access--no wiring in the building, no modems and/or no computers. Electronic mail/access is often available only in the basement lab with computers not attached to printers. This questionnaire is so far beyond the present realm of reality that it's almost absurd to respond."

"In my field, text files of preprints of most articles can be obtained from electronic bulletin boards and printed on our departmental laser printers. Daily listings of titles and abstracts received are sent to subscribers by e-mail. We are switching to this computer method to distribute preprints of articles written by members of our group, which will save us thousands of dollars in costs each year."

"The electronic culture is still too new to me. I only got e-mail last week for the first time. I have owned a computer for many years but only for word processing. A lot of the questionnaire assumes some acculturation still in the future."

Other responses concern obstacles to the use of information technologies and services.

"Greater instruction in using computer access materials would be beneficial."

"It is hard to explore possibilities when not connected to campus network."

"Would like to take advantage of electronic resources for research and teaching, but limited by lack of equipment, funds and sheer ignorance. Would like to see more training sessions for faculty, tailored to research needs of faculty (i.e., in my case, Humanities)."

"I would like to be able to take advantage of electronic information resources, etc., but lack the hardware, software and knowledge to do so. I have a computer in my office but it is not hard wired and my dept. has no money for this."

There are also suggestions about improving electronic services and eliminating obstacles.

"For electronic networking to be a useful resource to faculty, we need to know how to use it. Some of us will make it a point to learn it on our own, but for others there is a need for frequent (once or twice per semester) and well-publicized training sessions at a convenient location."

"It would be nice for new faculty to be oriented as to how to access the library information, what is available, what is and is not in our library and the rules for obtaining journals, articles, books, etc."

"It has now become essential for me to be able to access Medline from my office. Information overload makes this essential."

"Although a good library is critical to me, I can see the trend toward being overwhelmed by the volume of new material, not all of which is bad. Therefore to evolve toward electronic retrieval is necessary."

Finally, one respondent describes a vision of what the SUNY libraries should be.

"Put modems in the dorms and the offices and reference librarians on line and you may deliver services none of us can imagine now. If you think only in terms of SUNY Center libraries sharing what they have with each other faculty will bypass you. The SUNY Centers must open us to the world."

III.H Significant Findings and Implications for Libraries

A number of significant findings and implications for libraries are evident from the responses to this section of the survey.

- Over 95% of faculty respondents have access to computer equipment in their offices or homes. Thus most faculty respondents have the resources necessary to utilize electronic networks and information resources. It is important to recognize that those faculty choosing to respond to the survey could largely be those already experienced in the utilization of electronic technologies and resources.

- Humanities faculty, in comparison with faculty in the other disciplines and the professional schools, have much less access in their offices to computer equipment, communications equipment and software, and connections to the campus network.

- Improvement is needed in the provision of connectivity to campus networks.

- Humanities faculty compensate for lack of computer equipment and connectivity at their campus office by personally purchasing equipment and software for use in their homes.

- The two electronic resources most heavily used by faculty respondents at present are the campus library online catalog and electronic mail.

- More than 50% of respondents frequently access electronic information resources from office or home.

- A somewhat higher percentage of assistant professors, as compared with faculty at higher ranks, utilize several types of electronic information resources.

- Several specific electronic databases receive widespread use and could be targets for SUNY-wide networking and licensing agreements. Highest-use databases are Medline, ERIC, PsychLit, Genbank, and Modern Language Association Bibliography.

• Faculty perceive the major obstacles to their use of electronic technologies and resources to be lack of training and lack of information on relevant electronic resources.

• The survey clearly indicates important potential roles for the libraries in the development of training programs as well as continuous dissemination of information about specific electronic information resources.

• The training modes preferred by faculty are small classes/workshops and printed manuals.

CHAPTER IV

ACCESS TO MATERIALS

Section Two of the survey was designed to provide information on the faculties' current sources and methods of obtaining both print and electronic information. Its purposes are to obtain assessments of local campus library holdings in their disciplines, to ascertain what additional information sources a faculty uses to acquire teaching and research materials, and to determine the sources of funds used to access or acquire information.

The responses in this section allow us to look at the present use of information sources in both paper and electronic form, assessing respondents' patterns of use of libraries, interlibrary loan, and funds.

IV.A Key Books and Journals Available in Local Campus Library

The first question in this section asked respondents to estimate the percentage of key books and journals in their fields that are currently available at their local campus libraries. The answers to this question can be viewed as an indication to the individual campuses of faculty satisfaction with current collections.

Over 60% of the respondents indicate that they find at least 75% of key materials in their field in the local collection, including 22.7% of the respondents indicating that they find at least 90% of the material. For the purposes of discussion and analysis, these two response groups will be considered "high" satisfaction with the local collection.

TABLE IV.1

COLLECTION SATISFACTION BY RANK

SATISFACTION LEVEL	AGGREGATE	FULL	ASSOCIATE	ASSISTANT
>90%	22.7	25.8	22.6	20.2
>75%	40.0	40.6	42.0	36.2
>60%	23.8	24.1	22.6	28.7
>25%	5.8	4.1	5.4	10.6
<25%	3.5	2.3	3.3	2.1
NO RESPONSE	4.2	3.2	4.2	2.1

In Table IV.1, when the responses are disaggregated by faculty rank, the data indicate that 66.4% of full professors express high satisfaction in finding materials they need, whereas 56.4% of assistant professors express a similar level of satisfaction. Associate professors' responses are similar (64.6%) to those of full professors. One speculates that this may be due to the longer period of time over which the libraries have built collections to support research of tenured faculty. Assistant professors, who may be hired for new specializations, may find that the supporting materials are not always

available in the library collection, and that they must work with collection development librarians to build appropriate collections over time.

TABLE IV.2

COLLECTION SATISFACTION BY DISCIPLINE

SATISFACTION LEVEL	TOTAL	HUMANITIES	SOCIAL SCIENCE	SCIENCE	PROFESSIONAL SCHOOLS
>90%	22.7	10.8	19.9	31.6	24.9
>75%	40.0	36.1	41.2	40.6	41.9
>50%	23.8	28.9	25.2	21.7	22.2
>25%	5.8	9.6	5.8	2.0	6.0
<25%	3.6	6.0	4.0	1.6	2.4
NO RESPONSE	4.2	8.4	4.0	2.5	2.7

In Table IV.2, when the responses are disaggregated by discipline, the data indicate that 72.2% of Science faculty high express satisfaction with local collections; 66.8% of Professional School faculty and 61.7% of Social Science faculty indicate high satisfaction with the collections. Only 46.9% of Humanities faculty are satisfied at this level. When other levels of satisfaction are examined, one finds that 6% of Humanities faculty indicate they find less than 25% of their materials in the local libraries in contrast with 1.6% of Science faculty, 2.4% of Professional School faculty, and 4.0% of Social Science faculty.

The collections of the four University Center libraries are "new" as research library collections. With the exception of the SUNY at Buffalo collections, they date from the late 1960s. Collecting patterns and budgets, as well as availability of materials, result in the collections predominantly reflecting publications in the disciplines since that time. This appears to serve well Science, Professional Schools, and Social Science faculty, especially since the materials of their research tend to deal with current issues and current literature.

Humanities research and instruction are far less affected by recency of publication. Rather, strong Humanities collections must be retrospective as well as current in terms of publication date. The problem in acquiring retrospective collections in the Humanities is twofold: availability of materials to purchase, and adequate funds for retrospective purchases. In many instances, Humanities research materials are out of print or unavailable unless purchased as part of an existing collection or in a microform set.

The history of the University Centers' acquisitions funding shows a marked leveling off in the 1970s after a burst of growth in the early years. Budgets of the past decade have rarely been able to keep pace with inflation, and in the past several years reductions in amount or purchasing power have occurred. Retrospective collection building, including the acquisition of major research materials in microform, has generally come to a halt in campus libraries, even though obvious collection gaps still exist. Therefore, it is not unexpected that the Humanities faculty respond less frequently in terms of high satisfaction with the collections. Each campus will benefit from an analysis of responses by discipline in order to identify specific levels of satisfaction and compare these with the perceptions of collection development librarians regarding faculty views of the adequacy of collections.

IV.B Frequency of Interlibrary Loan Requests

The second question in this section assumed that the libraries' collections could not satisfy every need and that the library interlibrary loan service, that functions to complement local collections, would be used by faculty.

The four campus aggregate data show that over half the respondents are infrequent (51.5%) users of, or never (7.5%) use, interlibrary loan. In combination, this was 59% of the respondents. When the responses are disaggregated by rank, interesting differences can be seen. Assistant professors indicate infrequent or nonuse of interlibrary loan less frequently (51.0%) than full professors who said they are infrequent or nonusers of interlibrary loan (58.5%).

In Table IV.3, responses are disaggregated by discipline. This analysis indicates that Science and Professional School faculty are most likely to be infrequent or nonusers of interlibrary loan (64.3% and 63.2%, respectively). In contrast, 49.3% of Humanities faculty indicate infrequent or nonuse and 46.9% of Humanities faculty indicate that they are daily, weekly, or monthly users of interlibrary loan.

TABLE IV.3

COLLECTION SATISFACTION AND FREQUENCY OF USE OF INTERLIBRARY LOAN

	SATISFACTION LEVEL		FREQUENCY OF USE OF ILL		
DISCIPLINE	>90%	>75%	COMBINED	INFREQUENTLY OR NEVER	MODERATE*
HUMANITIES	10.8	36.1	46.9	49.3	46.9
SOCIAL					
SOC SCIENCE	19.9	41.2	61.1	51.8	43.4
SCIENCE	31.6	40.6	72.2	64.3	35.5
PROFESSIONAL SCHOOLS	24.9	41.9	66.8	63.2	35.5

NOTE: "Moderate" is a combined percentage of "daily," "weekly," and "monthly." "Combined" includes both >90% and >75% satisfaction levels.

Table IV.3 repeats the responses to satisfaction with the library's collections for the high satisfaction categories. The disciplinary response pattern of use of interlibrary loan parallels that of the disciplinary responses to satisfaction with local collections. A great number of Science faculty (72.2%) respond that they are likely to find at least 75% of their materials in the library collections. It follows that they would need to use ILL less frequently than others. It is interesting to note, however, that fewer than half (46.9%) of Humanities faculty respond that they find at least 75% of their materials in the libraries. Yet their responses about use of interlibrary loan did not show a wide variation in frequency from the other disciplines.

IV.C Methods Used to Obtain Materials Not Available in Campus Libraries

The third question in this section offered seven likely options for faculty in obtaining materials not in the campus libraries and asked them to indicate both the methods they use and the method used most frequently. An opportunity to list other methods was also available. The investigators expected that faculty would select interlibrary loan and personal purchase most frequently. Science faculty were expected to use commercial document delivery sources more frequently than other groups because of the nature of the document delivery services and their faculty links to online bibliographic databases in the sciences.

As anticipated, 78.6% of faculty indicate that they use interlibrary loan. There was little variation by discipline: 83.6% of Social Science faculty use interlibrary loan; 82.5% of Humanities faculty; 77.2% of Professional School faculty; and 75.4% of Science faculty. The response by the Science faculty is another indication that they are better served by local library collections.

One should note that the percentage of respondents who did not select interlibrary loan as a method for obtaining materials not in campus libraries does not match the percentage of respondents who indicate they never use interlibrary loan in response to Question 2. In Question three, 21.4% of the faculty indicate they do not use interlibrary loan. In response to Question 2, however, only 7.5% indicate they never use interlibrary loan. This apparent discrepancy may be attributable to the design of question 2, which offered many options.

Over a third (37.3%) of the faculty indicate that they use, or send someone else on their behalf, to another library in the region. Again, there is little variation by rank, although full professors are more likely (39.1%) to do this than assistant professors (36.7%). There is also little variation by discipline. Humanities faculty use this option most, 39.4%; followed by Social Science, 39.2%; Professional School faculty, 37.7%; and Science faculty, 34.4%.

As expected, a majority of faculty (62.3%) buy needed books and journals. There is little variation among the ranks. By discipline, the data indicate that Humanities (70.5%) and Social Science (70.4%) faculty report that they use this method most. Professional School faculty (60.1%) and Science faculty (52%) are much less likely to buy materials. The response by the Science faculty again confirms the support of the local collections for the sciences.

Few faculty (1.5%) use commercial document delivery services to obtain articles. This is a lower number than anticipated by the investigators, as is the disciplinary response. Professional School faculty used this method most (2.7%), but not at a rate that would indicate consistent or widespread use. The data are similar when sorted by faculty rank. Faculty either do not know of the existence of these services or do not choose to spend their funds in this manner. Since each campus offers free interlibrary loan service to faculty, convenience at a price would seem to be an option that the faculty choose not to exercise.

Only a small percentage (14.4%) of respondents indicated that they use a library or research institution collection that involves overnight travel. The responses vary somewhat by rank and by discipline. Associate professors are most likely (18.2%) to travel to a research collection; 13.9% of full professors; and 12.2% assistant professors indicated

this method. By discipline, the variation is greater and is reflective of the nature of research materials and the general discussion of the University Center libraries' collections above. Humanities faculty responded most frequently (26.5%) that they travel a distance to other research collections, followed by Social Science faculty, 22.6%. Professional School faculty (9.6%) and Science faculty (6.6%) are least likely to travel to obtain access to materials.

Almost half (45.3%) of the respondents indicate that they borrow needed materials from colleagues. More than half (52.1%) of assistant professors use this method, with associate professors (45.2%) and full professors (41.7%) somewhat less likely to do so. In contrast to responses to other methods, Science faculty are most likely (53.3%) to borrow materials from colleagues, and Humanities faculty are least likely (32.5%) to do so. Response from Social Science faculty was 48.2%, and from Professional School faculty, 43.7%.

For use of network-based sources or online, remote databases, there is little difference in response across the ranks. By discipline, 11.1% of Professional School faculty use this source, 10.7% of Science faculty; 7.2% of Humanities faculty; and 4.0% of Social Science faculty. This response may be the result of a variety of circumstances: lack of connection to the network, lack of knowledge of materials available via the network, or lack of key materials available through the network. It is difficult to quantify or classify the type of material available through the network. It is anticipated that the nature of the responses to this question by discipline will regularly change as more information is added to the network and as network access and navigation tools are developed.

When asked to indicated which of the eight options for obtaining materials not on campus they used most frequently, the largest response (47.9%) was no response! For those who did reply, interlibrary loan was the most frequent (27.1%) selection followed by purchase of materials (11.8%).

TABLE IV.4

MOST FREQUENTLY USED METHOD TO OBTAIN MATERIALS NOT IN CAMPUS LIBRARY: BY DISCIPLINE

DISCIPLINE	NO RESPONSE	ILL	LIBRARY	PURCHASE	TRAVEL	BORROW	OTHER
HUMANITIES	51.8	22.9	4.2	18.7	7.7	1.1	
SOCIAL SCIENCE	38.9	32.3	6.2	14.2	3.5	3.1	
SCIENCE	51.2	27.5	6.1	6.6	.8	3.3	1.6
PROFESSIONAL SCHOOLS	48.8	27.2	8.4	9.6	.6	3.3	1.5
OVERALL	47.9	27.1	6.7	11.8	1.3	3.0	1.4

There is little variation by rank in the responses to method used most frequently. Disciplinary patterns are different, as shown in Table IV.4. Over half of Humanities faculty (51.8%) and Science faculty (51.2%) did not identify the method most

BEST COPY AVAILABLE

frequently used. Of those methods selected, Social Science faculty selected interlibrary loan most frequently. Professional Schools faculty selected use of local collections and Humanities faculty selected purchase. Truly, the faculties are flexible and resourceful when it comes to obtaining materials not in the local collections.

IV.D Other Libraries Used by Respondents

The survey assumed that some faculty respondents would indicate that they used other libraries, either local or distant enough to require overnight travel. Question 3b asked faculty to identify the library, if any, to which they travel most frequently. Some respondents indicated more than one. Since the investigators were aware that University Center libraries have reciprocal borrowing and access privileges with other academic libraries through the New York Regional Reference and Referral (3Rs) Systems and Research Libraries Group (RLG) Shared Resources programs, they anticipated that faculty would identify both regional and RLG libraries.

The responses are analyzed by campus. Each campus had a similar number of responses to this open-ended question: 102 Albany faculty identified 49 libraries, including 3 international libraries; 106 Binghamton faculty identified 21 libraries, including 3 international libraries; 108 Buffalo faculty identified 41 libraries, including 12 international libraries; 103 Stony Brook faculty identified 39 other libraries, including 1 international library. An additional 25 Buffalo faculty responded that they consider libraries at the other UB campuses to be another library. Three additional Stony Brook faculty members responded similarly in listing the Health Sciences Library as "another" library.

The Albany faculty listed the New York State Library most frequently (51 responses), followed by Rensselaer Polytechnic Institute (36), Albany Medical College (10), the New York State Department of Health Wadsworth Laboratories Library (9), and Union College (9). Albany faculty identified eleven members of the Research Libraries Group, exclusive of the other University Centers or branches of the research divisions of the New York Public Library.

The Binghamton faculty listed Cornell most frequently (78 responses). After this there is a dramatic drop in frequency, with local public libraries listed four times; New York Public Library listed twice, and all others listed only once. Three members of the Research Libraries group are listed, including Cornell, in addition to the other University Centers and the New York Public Library.

The Buffalo faculty listed the Buffalo and Erie County Public Library most frequently (25 responses), followed by Cornell (13), SUNY College at Buffalo (8), the University of Toronto (8), and Roswell Park (3). Faculty identified eight members of the Research Libraries Group, excluding the other University Centers.

The Stony Brook faculty listed the New York Public Library research divisions most frequently (25 responses), followed by Columbia University (20), Brookhaven National Laboratory (10), New York University (7), and Yale (5). Eight members of the Research Libraries Group are listed, excluding University Centers and the New York Public Library.

The New York Public Library Research Libraries is an important source of research information for faculty at all four University Centers. Because of the national distinction of its collections, and because of the existence of New York's 3Rs program, which facilitates interlibrary loan within the State, this is not an unexpected finding. As

anticipated, faculty from all campuses use the libraries of the Research Libraries Group with frequency related to proximity. Cornell is the most frequently cited library with 96 responses from all four centers; Columbia has 27 responses from all four centers; Princeton has 5 responses from three campuses; Syracuse has 8 responses from two campuses; Yale has 7 responses from two campuses; Penn State has 4 responses from two campuses; Rochester has 5 responses from two campuses. Other RLG members listed only once are the University of Pennsylvania, University of Michigan, Dartmouth, Rutgers, and Berkeley. The faculty do not routinely list other SUNY University Centers as key collections to which they frequently travel. In planning new specialized resource-sharing arrangements among the University Centers, it will be important to recognize the likely need to re-educate faculty to think of the other three University Center libraries as first sources for interlibrary loan. This will be particularly important in light of the finding of the Council on Library Resources, SUNY University Centers interlibrary loan study that the University Center libraries are presently underutilizing one another as interlibrary loan sources.

IV.E Expenditure of Personal, Department, Grant, or Other Funds to Access or Acquire Information Resources

Another working hypothesis of the survey design was that faculty often acquire printed materials, access online databases, and purchase software, text and data on disks with personal, grant, and departmental funds. Question 4 in this section asked for information about these categories of materials and sources of funds for their purchase.

Faculty were asked to indicate whether they use personal, departmental, grant, or other funds to buy or access what librarians might consider "library" materials--resources that are generally found in library collections or are accessible through library terminals either directly or through a reference librarian. The investigators posited that faculty purchased print materials, specialized data sets or text on disk, and specialized software from personal or grant funds. They did not expect departmental funds to be used in this way.

Aggregate data indicate that the majority of respondents use personal funds (83.1%), grant funds (23.3%), department funds (13.3%), and other funds (1.4%) for purchase of books, subscriptions, articles, and preprints but do not regularly purchase access to online bibliographic, text, or data files, or pay for text or data on floppy or optical disk from any of these sources. Only 9.1% of the respondents use personal funds for access to online indexes and abstracts; 9.0% use department funds; and 10.2% use grant funds. Responses for access to full text or data sets online were similar to access to online bibliographic files: 6.5% use personal funds; 6% use department funds; and 5.7% use grant funds. Faculty also buy specialized software but to a lesser degree: 21.2% use personal funds; 16.3% use grant funds; and 11.6% use department funds.

Generally, there is little variation in the responses when they were analyzed by rank. Disciplinary variations are more interesting. Tables IV.5 through IV.7 show how faculty, in the aggregate, and in the different disciplines, use personal, grant, and department funds.

TABLE IV.5

USE OF PERSONAL FUNDS

	PRINT	ONLINE ABS/INDEX	ONLINE TEXT	DATA ON DISK	ANALYSIS SOFTWARE
TOTAL	83.1	9.1	6.5	10.3	21.2
HUMANITIES	86.7	10.8	9.0	12.0	19.3
SOCIAL SCIENCE	93.8	8.8	7.1	14.2	24.3
SCIENCE	75.4	9.8	5.7	9.4	13.5
PROFESSIONAL SCHOOLS	82.0	8.1	5.4	7.8	25.7

Table IV.5 looks at use, by discipline, of personal funds to purchase information resources. For all disciplines print is purchased by the largest percentage of respondents, with 93.8% of Social Science faculty using personal funds for this resource. Percentages for all other information resources purchased through personal funds are far smaller, with analysis software, the second largest use, ranging from 13% to 26% of respondents for various disciplines. Science faculty are consistently at the low end of the responses for use of personal funds for these materials.

TABLE IV.6

USE OF GRANT FUNDS

	PRINT	ONLINE ABS/INDEX	ONLINE TEXT	DATA ON DISK	ANALYSIS SOFTWARE
TOTAL	23.3	10.2	5.7	7.5	16.3
HUMANITIES	6.0	2.4	.6	.6	3.0
SOCIAL SCIENCE	17.3	3.1	4.0	7.1	12.4
SCIENCE	41.4	22.1	13.9	14.8	30.7
PROFESSIONAL SCHOOLS	32.1	10.5	3.3	6.0	14.1

Table IV.6 shows that Science faculty are most likely to use grant funds for purchase of all types of materials. Humanities faculty are least likely to use grant funds in this way. Overall, grant funds are seldom used to purchase access to online text or data. This is not an unexpected distribution by discipline when one considers the differences in the nature, quantity, and amount of grant funds available in Science and the Humanities. Professional School faculty are also likely to use grant funds for each category more frequently than the Social Science and Humanities faculty for print and access to online indexes and abstracts, but they are less likely to use grant funds to access online text and datafiles, or to purchase data on disks.

TABLE IV.7

USE OF DEPARTMENT FUNDS

	PRINT	ONLINE ABS/INDEX	ONLINE TEXT	DATA ON DISK	ANALYSIS SOFTWARE
TOTAL	13.3	9.0	6.0	6.7	11.6
HUMANITIES	8.4	4.2	2.4	3.6	3.0
SOCIAL SCIENCE	7.1	4.0	5.8	5.8	17.7
SCIENCE	9.8	7.0	5.3	6.6	10.2
PROFESSIONAL SCHOOLS	20.1	16.2	8.4	9.0	12.6

Table IV.7 shows that departmental funds are used more frequently (13.3%) to buy print materials. Analytical or modeling software is the next most likely purchase. Access to citations, text, or data online and on disk are not routinely purchased out of department funds.

In this category, the disciplinary responses vary from those of grant and personal funds. Professional School faculty indicate that department funds are regularly used for purchase of printed materials, access to online indexes and abstracts, analytical/modeling software, data on disk, and online access to text and data. Each of these percentages is above the aggregate response for the category of materials.

Both Humanities and Science faculty are below the aggregate in all categories. Social Science faculty are below the aggregate in all but the purchase of analytical/modeling software, where they indicated the highest response of all disciplines for expenditure of department funds for this purpose. There are disciplinary differences in priority and amount of department funds available for purchase of materials to support individual research.

IV.F Open-ended Response Questions That Pertain to This Section

The open-ended comments in this section of the questionnaire most commonly expressed concern relating to the need for more materials, especially journals. A number of faculty took this opportunity to express their thoughts about the journal cancellations of the last several years.

"Our library is good--main problem is resources to grow to support PhD level."

"The library does not get at least half of the journals to which I submit (and have been accepted!) Over the long haul, this is a disaster for scholarship."

"Art does not seem to receive very high priority in ordering books and journals in our field. Students have a difficult time accomplishing the required readings and

research. Many of us in art use libraries in a more traditional way and not through computers--we still read books. We could user better collections and services."

"Increase the size of the collections, especially journals."

"The SUNYA library acquires a large number of "nonacademic" business and economics books, while failing to buy some important academic books. Some current textbooks should be in the collection."

"We must discover a way to increase the availability of journal articles. We cannot be competitive with larger research universities unless we have access to all important periodicals."

Another area of concern on all campuses was with the perceived disarray of the stacks. Several faculty indicated that items listed in the catalogs, but not circulating, could not be found.

"Presently cannot give students assignments that need extensive library reference because recent texts are in offices. Time to recall is extensive; greater than interlibrary loan."

"Many of the classic texts in my field have been stolen from the library. These should be replaced, and security should be tightened."

"On-line access is ok--for what is here. The problem in my experience is that there are too few of in-house materials available to peruse and even to summarize. (i. e. many of items I know to be in library do not show up on electronic lists, either by author or keyword...Crucial articles/chapters are often missing too."

"The most important thing is to be able to locate materials needed as quickly as possible--the mechanisms for doing so are of secondary importance. My most frequent frustrations with using the SUNY Albany library are: ... 2. missing books and documents...."

Not all faculty had complaints.

"I am happy with the services provided by the library. I am able to access the materials I need."

"[The] journal collection is pretty good for my purposes--especially with ILL."

"Visits (annual) by library rep. to dept. (with, say, a month's notice) to talk about acquisition problems and about new available services would really help (especially if rep circulated list of problems to be discussed in advance of meeting."

The most interesting comments about the collections and use of ILL were more directly related to the future services of the libraries and will be discussed in the next chapter.

IV.G Significant Findings and Implications for Libraries

Interesting conclusions might be drawn from the satisfaction with collections by campus, by discipline, and to a lesser extent by rank.

- Science faculty report most satisfaction with local collections.

- Faculty are generally infrequent users of interlibrary loan services. This clearly merits further investigation and may imply that we should not use faculty standards for planning interlibrary loan related services.

- The faculty consistently use a variety of methods to obtain materials that are not in the local collections. A majority of faculty buy needed books and journals, especially in the Humanities and Social Science. Faculty rarely (1.5%) use commercial document delivery sources. A small number of faculty (14.4%) travel to distant collections. Over a third (37.3%) go to or send someone to other libraries in the region. Almost half (45.3%) of the respondents borrow materials from colleagues. Fewer than 10% use network sources.

- Faculty use a number of libraries to supplement the campus library collections. Cornell is cited most frequently. The research divisions of the New York Public Library, the New York State Library, and libraries of Research Libraries Group also strongly support SUNY faculty use.

- Personal, grant, and department funds are used to buy print materials and specialized software. Much less frequently, these funds are used for access to online indexes, text, data, or data or text on disks. It is unclear whether faculty rely on library collections for electronic resources, do without, or use comparable print sources.

- Social Science faculty are most likely to use personal funds to purchase print and data on disk. Humanities faculty are most likely to use personal funds to access online indexes and abstracts and online text files. Professional School faculty are most likely to purchase analytical or modeling software.

- Science faculty are most likely to use grant funds for purchase of all types of materials. Professional School faculty are also more likely to use grant funds for each category than are Social Science or Humanities faculty. Humanities faculty are least likely to use grant funds in this way. Departmental funds are most frequently used to purchase print materials.

CHAPTER V

CURRENT AND FUTURE FACULTY EXPECTATIONS

The third section of the Faculty Needs Assessment serves three purposes: to assess faculty expectations about delivery time, cost, and medium of interlibrary loan requests; to determine desired transactions and products that could be delivered electronically; and to evaluate faculty preferences about the expenditure of library and information resource funds.

The data collected in this section look to the future, assessing the potential areas of desired growth in electronic dissemination of information. At the start, it should be noted that many individuals expressed concern that they did not know enough to answer some of the questions adequately. In particular, the fourth question, concerning electronic information sources, left many individuals wondering what was available.

V.A Delivery Time for Interlibrary Loan Requests

The first question in this section addresses the acceptable delivery time for interlibrary loan requests. The question was divided to address the delivery time for books and for journal articles separately. For books, responses range from one day to thirty days, with a modal response of seven days. The middle 50% of those who answered this question respond that a delivery time of four to eight days is acceptable. For journal articles, responses range from one to forty-one days, with a modal response again at seven days. The middle 50% of those who responded consider a delivery time of two to eight days an acceptable delivery period.

The following set of tables looks at the effect that rank and discipline have on the desired interlibrary loan delivery time for books and journal articles.

TABLE V.1

DESIRED DELIVERY TIME OF BOOKS BY FACULTY RANK

	Minimum	Mode	Middle 50 Percent	Maximum
FULL	1	7	7-14	30
ASSOCIATE	1	7	7-14	25
ASSISTANT	1	7	5-10	21

TABLE V.2

DESIRED DELIVERY TIME OF JOURNAL ARTICLES BY FACULTY RANK

	Minimum	Mode	Middle 50 Percent	Maximum
FULL	1	7	4-10	41
ASSOCIATE	1	7	4-14	21
ASSISTANT	1	7	3-10	21

TABLE V.3

DESIRED DELIVERY TIME OF BOOKS BY FACULTY DISCIPLINE

	Minimum	Mode	Middle 50 Percent	Maximum
HUMANITIES	1	7	7-14	21
SOCIAL SCIENCE	1	7	7-17	21
SCIENCE	1	7	7-14	30
PROFESSIONAL SCHOOLS	1	7	7-14	25

TABLE V.4

DESIRED DELIVERY TIME OF JOURNAL ARTICLES BY FACULTY DISCIPLINE

	Minimum	Mode	Middle 50 Percent	Maximum
HUMANITIES	1	7	5-14	41
SOCIAL SCIENCE	1	7	5-12	21
SCIENCE	1	7	3-8	21
PROFESSIONAL SCHOOLS	1	7	4-10	21

The most interesting observation to make about the above tables is that they are all so similar. All disaggregated faculty types have a minimum desired delivery time of 1 day and a modal delivery time of seven days. The range within which the middle 50% of each

group falls varies slightly by rank and discipline, with expectations of faster delivery time for journal articles (as opposed to books) seen across all subgroupings.

Some small differences do exist among the subgroupings in the above tables. Most notably, assistant professors in the survey population indicate that they expect journal articles and books delivered on interlibrary loan more quickly than do their full and associate professor colleagues. Science faculty who responded indicated that they expect journal articles more quickly than their counterparts in the other three disciplinary groupings.

It should be noted that the wording of the questionnaire may have had an impact on the results in that current average delivery time was indicated (between one and three weeks). Although the questionnaire item asked for acceptable delivery time in days, many individuals indicated "one week" or "one to two weeks" (which was averaged to ten days for coding). The universal modality of the responses at seven days might be accounted for by this wording. This does not, however, invalidate the finding of shorter delivery times desired Science faculty and assistant professors in the study.

V.B Preference for Modes of Interlibrary Loan Delivery of Journal Articles

The second question in this section requested preferences for modes of delivery of journal articles not held at the respondent's local campus library. Respondents were asked to rank the five choices (FAX, Photocopy, Electronic scanning/E-mail, Microfiche/Film, and Borrow original) on a scale from 1 to 5. It should be noted that some individuals chose to give the same rank to several items, possibly leaving several other items blank. The raw scores by item ranking from respondents might therefore total more than the actual number of respondents answering the item.

Table V.5 presents the percent response for the item rankings for the entire population of individuals (n = 1007) who responded to the survey.

TABLE V.5

PREFERRED MODE OF INTERLIBRARY LOAN DELIVERY: ALL RESPONDENTS

	PREFERENCE				
	Highest 1	2	3	4	Lowest 5
FAX	21.9	32.1	21.0	6.5	3.4
PHOTOCOPY	49.6	26.9	11.5	1.6	4.0
ELECTRONIC SCAN/ E-MAIL	15.9	15.8	22.2	17.4	10.3
MICROFICHE/FILM	.5	1.2	5.2	20.5	.2
BORROW ORIGINAL	7.0	11.8	17.3	23.3	20.1

Looking at those items that were most preferred (i.e., received a rank of one) the preferred modes of interlibrary loan delivery of journal articles for the whole population of respondents can be ranked: (1) Photocopy, (2) Fax, (3) Electronic Scanning/E-Mail, (4) Borrow original, and (5) Microfiche/Film. (The least-preferred modes of delivery appear in exactly the opposite ranking, mirroring the results seen in preference.)

These same rankings are found in data for both rank and discipline of faculty members with the exception of Humanities faculty, who responded (1) Photocopy, (2) Fax, (3) Borrow original, (4) Electronic Scanning/E-Mail, and (5) Microfiche/Film.

V.C Charges for Expedited Document Delivery Service

The purpose of the third question was to explore possible faculty interest in alternate modes of interlibrary loan service, specifically expedited, fee-based document delivery service. Respondents indicate a variety of preferences for the amount they consider acceptable to pay for expedited delivery. Several individuals did not answer the question--instead they included a marginal statement that they would either never pay for information because it should be free of charge or that they would wait for regular delivery. Table V.6 summarizes the responses to the survey for the total survey population, and for rank and disciplines.

TABLE V.6

ACCEPTABLE CHARGES FOR EXPEDITED DOCUMENT DELIVERY SERVICE: ALL RESPONDENTS, RESPONDENTS BY RANK, AND RESPONDENTS BY DISCIPLINE
(Percent indicating "yes")

	No Charge	< $5.00	$5 to $10	< $10.00
TOTAL SURVEY POPULATION	39.8	48.1	4.2	.5
FULL	38.3	49.0	4.1	1.2
ASSOCIATE	40.8	45.8	4.2	.3
ASSISTANT	39.4	51.1	4.8	0
HUMANITIES	43.4	45.8	1.2	1.2
SOCIAL SCIENCE	42.5	49.6	1.8	0
SCIENCE	35.7	52.0	4.9	.8
PROFESSIONAL SCHOOLS	38.0	47.6	6.3	.3

Somewhat to our surprise, slightly more than half of the survey population indicate a willingness to pay at least a five dollar charge for expedited delivery service. This suggests that libraries should consider offering the option of fee-based, expedited document delivery service for those faculty members for whom time is evidently more important than money. However, current marginal costs of expedited delivery generally exceed the modest amount faculty appear willing to pay.

V.D Electronic Information Sources Desired but without Current Access

A common response to the fourth question (open-ended) in this section was, "I don't know what to answer because I don't know what is available. Give me more information." The strongly voiced need for more information and more user training that was observed in Section I of the survey is reflected in these responses.

The other interesting phenomenon is that many of the electronic information sources requested here also appear in response to the question on information sources that are currently used. Of the 148 individual items that were requested by faculty in this section, 55 are items that match responses to Question 3 of Section I of the survey as items that are used. This confirms the need for more information about availability of information resources. The survey did not ask about where access is gained to specific electronic information sources--library, department, or personal access. The survey also did not ask how specific expensive electronic information sources are paid for. These would be interesting questions to pursue in a follow-up study.

Table V.7 lists those electronic information sources that are desired by five or more respondents across the four campuses, with the specific number of respondents indicated in each case. The other 135 items desired were requested by fewer than five respondents each, with more than half having only a single request.

TABLE V.7

DESIRED ELECTRONIC INFORMATION SOURCES

CURRENT CONTENTS	22
LEXIS	19
MEDLINE	18
NEXIS	13
CHEMICAL ABSTRACTS	12
DIALOG	11
MLA	7
BEILSTEIN	6
ECONLIT	6
SOCIAL SCIENCE CITATION INDEX	6
RLIN	5
SCIENCE CITATION INDEX	5
U.S. CENSUS DATA	5

Several high-priced, multi-itemed requests appear in this wish list, including Compuserve and Dialog. Interestingly enough, some no-cost items also appear. One respondent desired Bitnet, seemingly a request for a connection to the network. Another individual requested Archie and Wais, search and retrieval systems available free to individuals with access to the Internet. Similarly, IOUDAIOS and Post Modern Culture are both electronic journals available free to individuals who have access to the Internet. Respondents did occasionally comment upon whether connectivity, information, or funding create their inability to gain access to electronic information sources. There is no indication as to whether information about using the systems available or inability to get on the systems themselves is the problem.

V.E Library Transactions Initiated by Computer

The fifth question of this section, asked respondents which library transactions they would like to be able to initiate by computer from their home or office. Not surprisingly, large percentages of respondents want many services initiated from home or office in lieu of making a trip to the library.

Table V.8 summarizes those responses. The last column of the table provides the most frequent response to the question of highest priority item.

TABLE V.8

DESIRED LIBRARY TRANSACTIONS THAT COULD BE INITIATED BY COMPUTER FROM HOME OR OFFICE (Including Highest Priority)

	REFERENCE ILL	RENEW/ QUESTIONS	DOCUMENT RECALL	DELIVERY	RESERVE	HIGH PRIOR
TOTAL	74.2	54.2	67.1	47.1	50.9	ILL
FULL	71.0	55.4	62.9	47.5	50.7	ILL
ASSOCIATE	76.5	51.2	69.9	46.4	52.7	ILL
ASSISTANT	78.7	55.3	73.4	55.3	62.2	ILL/ RENEW
HUMANITIES	77.7	59.6	72.3	43.4	60.2	REF/ RENEW
SOC SCIENCE	82.7	59.3	77.0	49.1	64.2	ILL
SCIENCE	64.3	41.4	58.6	41.0	41.0	ILL
PROFESSIONAL SCHOOLS	75.7	56.6	65.3	52.1	46.4	ILL

NOTE: 50% of the respondents in the survey starred an item as highest priority. Interlibrary loan received 30% of all responses that were starred, the top priority item for the total survey population.

The most interesting items here, at first glance, are (1) the highest priority items, with interlibrary loan the most favored item, (2) the two ties: Humanities with reference questions and renewals, and assistant professors with interlibrary loan and renewals, (3) assistant professors who respond almost ten percentage points higher on document delivery and reserves than their full and associate colleagues, (4) assistant professors who respond almost eight percentage points higher on ILL and renewals/recalls than their full professor colleagues, and (5) Science professors whose responses are generally low on all items when compared with the responses of the other disciplines.

It would appear that many survey respondents would welcome more information services that could be transacted over their computer from home or office. The need for connectivity, as discussed in Chapter III of this report, is a critical item if all faculty are going to have access to these services as they are developed.

These responses suggest that a high priority for the university center libraries should be to develop on all four campuses, at the earliest possible date, the ability for faculty to initiate interlibrary loan requests from home or office. We believe that this is an especially

important service to offer, if the libraries wish to encourage faculty to make more frequent use of interlibrary loan than the data reported in Chapter IV above.

V.F Division of Information Resource Funds

Many respondents found it difficult to respond to Question 6 in this section, which asked respondents to make choices between possible funding recipients in libraries. When given the choice between more books or more journals, more print or more electronic, many respondents stated in the margins that they had a hard time making a choice. As a result, many of the responses center around the middle of the range (3 or "equal" weight). Table V.9 displays the data for the total population and each of the groups of survey respondents that have been studied throughout this report. In each case, the ranks range from 1 to 5, with a "1" indicating that the respondent considers the first item in the group the more important and a "5" indicating that the second item is more important. A "3" indicates equal importance, with a "2" or "4" indicating more importance in either direction. As can be seen from Table V.9, no group diverges so far from the center of the range as to have a modal score of "1" or "5."

TABLE V.9

PREFERRED DIVISION OF AVAILABLE LIBRARY/INFORMATION RESOURCE FUNDS

	TOTAL	FULL	ASSOC	ASSIST	HUM	SS	SCI	PS
BOOKS VS JOURNALS	3	3	3	3	2/3	3	3/4	4
PRINT VS ELECTRONIC	2	2	2	3	2	2	2	2
HOURS VS STAFF	3	3	3	2	3	3	3	3
HOURS VS COLLECTION	4	4	4	4	4	4	4	4
NETWORK VS BOOKS/ JOURNALS	4	4	4	4	4	4	4	2
ENHANCED CATALOG VS BOOKS/ JOURNALS	2	4	2	2	4	4	2/4	2
HOME/OFFICE TRANSACTIONS VS BOOKS/JOURNALS	4	4	4	4	4	4	4/5	2/4

Interesting items that can be noted from Table V.9 are as follows:

1. Professional School and Science faculty tend to rank journals above books.

2. Almost all respondents put more emphasis on print than on electronic sources (assistant professors ranked them equally).

3. Assistant professors put more emphasis on hours than staff while all other groups ranked them equally.

4. Only Professional School faculty put more emphasis on network document delivery than books or journals. All other categories reverse this preference, ranking books and journals above network document delivery.

5. Associate and assistant professors, and Professional School faculty, put more emphasis on an enhanced online library catalog while all other groups put more emphasis on book and journal acquisition.

6. All groups put more emphasis on acquiring books and journals over library transactions from office or home, with Science faculty divided between putting more and putting most emphasis on books versus journals.

A profile might be drawn here of a faculty that prefers hard copy to electronic sources, that prefers collection development to extra library hours, that might prefer an enhanced online catalog to more books and journals, and that feels funds should be divided equally between library staff and library hours. At the same time, one must understand that not all respondents chose to answer this question because they found the choices too difficult, and that in all cases there were individuals who did select a "1" or a "5" for a response.

V.G Open-ended Response Question That Pertain to This Section

Many of the open-ended responses that appear on the last page of the Faculty Needs Assessment Survey deal specifically with needs. Respondents took the opportunity to describe systems that would enhance their productivity and their scholarship. In particular, the following items appear in the response section:

- A desire to move toward electronic information sources
- A need for more information about access to remote library catalogs
- Access to online indices at low or no cost for students and faculty
- Computers for faculty with access to selected networks
- Resource people to direct potential users to services
- Electronic card catalogs listing availability of resources
- Access to geographic information system databases

- CD-ROM access from offices
- Full-text access to journals and books
- A newsletter indicating available databases and resources
- Timely access to journal articles and books
- Electronic services to decrease need for traveling to libraries

To be fair to the responders, many individuals are upset with the change to electronic access. They want the ability to browse the stacks, to have information in their hands in its original format, and to have that information immediately without sharing it with other libraries' patrons. Their needs include

- Books
- Journals
- Longer library hours
- Closed stacks
- Funding for greater access to materials

Finally, many individuals wrote extensive comments about information access in a coming electronic age.

"Hardcopy can be carried (books, journals, or xerox copies) on bus, train, plane, and to office, home, barbershop, dentist, cafeteria, etc., making waste time into useful time. The big push into "electronic text," except for QUICK searches, is of doubtful outcome. Microfiche was not the answer. Neither is electronic text. There will always be the problem of portability, hardware expense, compatibility/standards and obsolescence, whereas the original hard copy retains value. On the other hand, I can see a need for communicating needs to librarians via E-mail as opposed to campus mail provided that some acknowledgment of receipt of message is possible."

"The libraries' efforts to move toward electronic resources require a parallel effort by deans to provide faculty and grad students with computers and data connections. So far, our libraries' resources (CD-ROMs, access to databases, etc.) far outstrip the ability and readiness of the relevant faculty and grad students to take advantage of them. Thank you for conducting this study."

"As you know, the world is bigger than SUNY. I already have access to bibliographic information all over the world from home. What I would like to have is faster delivery of information. I'd like to see SUNY develop electronic access to texts, full texts, and do it by hooking on to other systems that have already developed all or parts of these resources, public and private. If I have full access to texts electronically and to bibliographic data bases, I don't need books in my hand--I can print what I need faster than you can deliver it."

"Problems of satisfaction with library service may have as much or more to do with library policy as with resources and collections. After all, a researcher cares not

BEST COPY AVAILABLE

whether a library owns a book or journal, but cares much about obtaining the book when needed. As for CD-ROMs, databases, etc., more money should be spent on improving retrieval algorithms and methods."

V.H Significant Findings and Implications for Libraries

A number of significant findings and implications for libraries are evident from the responses to this third section of the survey. A summary list follows.

- Education about electronic information sources is foremost on the minds of the respondents to this survey.

- Low-cost or no-cost access to electronic technologies is a concern to survey respondents, not only for faculty research but also for the research of graduate students.

- Survey respondents request the ability to initiate a wide variety of transactions by computer from home or office, with interlibrary loan the highest-priority item for most subgroups of this study.

- Acceptable interlibrary loan delivery time for journal articles and books centers on seven days, with faster access expected for journal articles than for books.

- Photocopy followed by FAX are the preferred modes of interlibrary loan delivery for all subgroups in the study.

- Microfilm and microfiche are by far the least-desired modes of interlibrary loan delivery.

- In all subgroups, 45% to 55% indicate that they would spend up to five dollars for expedited document delivery service.

- Assistant professors who responded to the study want to be able to initiate more transactions by computer from home or office than do their full or associate professor counterparts. Future research needs to consider the possibility that newer faculty members have exposure to and demands for electronic access technologies that exceed or differ from those of their associate and full professor colleagues.

- For the most part, survey respondents value books and journals over electronic media sources and access technologies. At the same time, they express a lack of knowledge about what is available and a strong interest in knowing more.

CHAPTER VI

SUMMARY, RECOMMENDATIONS, AREAS FOR FUTURE RESEARCH

VI.A Summary

This report has presented an initial analysis of the results of a survey of the needs, attitudes, and expectations of faculty, administrators, and other academic professionals in the four University Centers of the State University of New York--Albany, Binghamton, Buffalo, and Stony Brook.

The objectives of this study were

1. To produce a needs assessment and inventory of the technologies now utilized and/or needed by SUNY faculty and libraries for effective access to electronic information products and networked resources

2. To achieve an awareness of faculty needs and expectations regarding access to electronic and networked information resources

3. To become aware of faculty perceptions of acceptable library or system performance in a resource-sharing environment and for an effective document delivery system

4. To sensitize faculty and foster their commitment to resource sharing and document delivery among the SUNY Center libraries

VI.B Methodology

A five-page survey instrument questioned respondents about (1) their current use of electronic information access technologies, (2) their current methods of acquiring materials through both campus library and external sources, and (3) their current and future expectations about receiving information not in their campus library through expedited and electronic means. A final section asked respondents about their campus, department, rank, and years of service.

The population for this study was defined as "all core teaching faculty, plus selected administrators and professional personnel, and clinical faculty" on all four of the University Center campuses. The instrument was sent to 3,721 potential faculty respondents; 1,007 usable responses were received, for a response rate of 27%. The distribution of responses roughly corresponded to the actual distribution of the survey population by academic rank and by broad disciplinary grouping on the four campuses.

IV.C Major Findings

1. The most common obstacle to use of electronic information resources for faculty is a reported lack of knowledge about what is available, rather than lack of funds. A need exists that libraries could respond to at relatively modest cost and effort.

More than 60% of respondents identify lack of information about available databases, and more than 48% identify lack of training, as major obstacles to their use of electronic information technologies. Contrary to our expectations, given the fiscal austerity that has characterized the SUNY University Centers in recent years, lack of funds ranks a distant third among faculty-perceived obstacles to access to electronic information technologies and services.

2. User training is a high-priority need. A variety of faculty-training options is needed.

Respondents indicate that their use of electronic technologies would be increased most by their having more information about resources available through networks and by instruction or training in the use of e-mail, network sources, and online databases. The faculty-training problem, like most complex problems, is not likely to be amenable to a single solution. There are noteworthy distinctions in training preferences among the various disciplines, which indicate that several types of training options need to be made available to faculty. But it is clear that formal classes are regarded by faculty as the least-attractive training mode, with a consistent preference for small-group classes or workshops, and an expressed need to augment theses with printed manuals and online tutorials.

3. Faculty access to computers, modems, and printers, and use of electronic information sources are high. Faculty access to campus networks, however, is less than optimal.

More than 95% of University Centers' faculty responding to this survey have a personal computer either in their office or at home. More than half the respondents have telecommunications capability from either office or home. Exactly half currently use electronic information resources, including databases both online and in CD-ROM. But only two thirds of faculty are connected to the campus network from their offices, and less than 30% are linked to the campus network from home. While 4% of faculty still have no access to a personal computer, 8% have no access to a printer, 40% have no FAX access, and nearly 90% lack access to a CD-ROM player that is connected to a computer.

4. Humanities faculty, in comparison with faculty in Social Science, in Science, and in the Professional Schools, have significantly less campus access to computer equipment, communications equipment and software, and connections to the campus network.

By any measure, Humanities faculty remain the have-nots of the electronic information age. Only 29.5% of Humanities faculty have other than voice telecommunications capabilities in their offices, compared with 51.3% of Social Science, 58.4% of Professional Schools, and 71.3% of Science faculty. Similarly, while over 90% of Science and Professional Schools faculty, and nearly 85% of Social Science faculty have office computers, only 55% of Humanities faculty do.

Only 3% of Humanities faculty report use of grant funds to acquire either print or electronic information resources, while over 30% of scientists use grant funds in this way. Parenthetically, the percentage of humanists with access to a personal computer at home rises to nearly 79%, suggesting that humanists have been obliged to deal with the hardware problem by buying computers from personal funds.

This finding is by no means surprising, although the present study perhaps does provide a relative measure of the plight of the humanists in the SUNY University Centers. Explanations are not difficult to find. Scientists were among the earliest users of both computers and telecommunications networks for numerical data storage, analysis, and manipulation. Scientific research grants have, for decades, provided funds for purchase of both hardware and software. Humanists have been slower to adapt computers for teaching and research, although especially with their growing reliance on full text electronic resources, they are catching up rapidly.

5. A majority of respondents report that their campus library contains 75% or more of the key items in their field.

The level of faculty satisfaction with University Center libraries' holdings in the core literatures of their disciplines is higher than we had anticipated it would be, given the negative impact of budget reductions on library collection development over the past several years. Sixty-three percent of faculty report finding 75% or more of the key items in their field in their campus library. Another thirty percent report that between 25% and 50% of key items are available locally. Only four percent responded that they find fewer than 25% of key items in their campus library.

Senior faculty are slightly more satisfied with library holdings than are their junior colleagues. There are even more significant distinctions among the disciplines, with scientists, Professional School faculty, and social scientists predictably reporting significantly higher levels of satisfaction with core collections than humanists. A slightly higher percentage of humanists (6%) than of all respondents (4%) find less than 25% of the core materials in their disciplines available locally.

6. Seventy-nine percent of the respondents report using interlibrary loan for obtaining materials not in their campus library, but a majority do so only infrequently.

While interlibrary loan use is common among faculty respondents, the frequency of use is lower than we had predicted. When asked how often they request items from their library's interlibrary loan department, 1% indicate that they request interlibrary loan items on a daily basis, 8% weekly , 30% monthly, 52% infrequently, and 8% never.

It seems likely that the previous finding (#5 above) concerning the surprisingly high level of faculty satisfaction with campus library holdings is related to the surprisingly infrequent need to rely on interlibrary loan. Similar intradisciplinary relationships exist, as noted in Chapter IV. Establishing causality is, of course, a much more complex matter. This area merits much more careful analysis of the data in hand, as well as further investigation, especially in light of the discrepancies between responses to questions in Section II of the survey that asked about faculty use of interlibrary loan.

7. Forty percent report that they would use an expedited document delivery service only if it were free.

While only 1% indicate that they would use expedited delivery if the charge were over $10, 48% appear to be prepared to consider a charge of under $5 per item. Forty percent report that they would use an expedited document delivery service only if it were free. This suggests that a single, across-the-board policy for interlibrary loan fees may need to be replaced by providing options to faculty, depending on the resources available to them and the urgency of their need. Interlibrary loan may well be a time-money tradeoff issue, with the same faculty member choosing in one instance to pay a fee for prompt delivery while at another time being content to spare his or her purse and wait for a cost-free, conventional interlibrary loan. It may also be that while librarians agonize over the theoretical and ethical issue of fees for service, faculty library users simply want the option of a modest payment in return for rapid delivery. However, current marginal costs of expedited delivery generally exceed the modest amount faculty appear willing to pay, posing another dilemma for librarians to agonize over.

8. Acceptable interlibrary loan delivery times for books and journals differ slightly, but in both instances faculty expectations remain relatively modest.

Our study found little evidence that the speed of electronic information technology has as yet altered the "ecology" of interlibrary loan. Although respondent expectations vary for delivery of items, half of those surveyed consider a delivery time of six to ten days for books acceptable. For journal articles, half of the respondents request a delivery time of three to seven days. We do not, of course, know to what extent our decision to indicate current delivery time norms in the survey question may have influenced these responses.

Journal articles are expected to be delivered slightly faster than books. First choice, preferred modes of delivery for interlibrary loan range from photocopy (50% of respondents) to microform (less than 2% of respondents). Electronical scanning and delivery are as yet preferred only by a decided minority of respondents.

9. Respondents express an interest in initiating a wide variety of library transactions by computer from their homes or offices.

All options noted on the survey received responses from more than 40% of the respondents, with initiation of interlibrary loan requests (75%) and renewals and recalls of library materials (67%) the highest-priority items. Reference questions (55%), reserve material requests (52%), and document delivery to departmental offices (46%) follow in importance.

10. A surprisingly high percentage of faculty use personal funds to buy needed publications.

Sixty-three percent of respondents indicate that they purchase books or subscriptions. Interlibrary loan (79%) and colleagues (45%) are also frequently reported sources of obtaining publications not held by local campus libraries. Commercial delivery services and network-based sources such as databases are each reported as options by fewer than 10% of respondents. Over 80% of the faculty use personal funds to acquire journal subscriptions, articles, books, and preprints.

IV.D Six Action Recommendations for the University Center Libraries

This study, as well as the other three studies completed as part of the SUNY University Center Libraries' Council on Library Resources project, was undertaken to provide information needed by the libraries to plan for an extended and expanded program of cooperative collection development and resource sharing. Consequently, we have derived from the results of the survey, as well as knowledge gained in working with the leadership of the four libraries and representatives of their clienteles, a brief set of items that we believe merit consideration for collective action over the next one to five years.

Because our analysis centers on the aggregated data from the four campuses, we are not prepared at this time to offer recommendations for the individual campuses. We also lack the necessary familiarity with the specifics of each campus and its library to formulate such recommendations. Campus-level data have been made available to each SUNY University Center, and we recommend that the librarians, in concert with administrators, faculty, students, and appropriate campus-level governance bodies, review them and develop appropriate plans for responding to unique local needs.

1. Explore the feasibility of sharing resources for providing information and training in electronic information technologies and services.

As noted above (major findings #1 and #2), the greatest obstacles at present to increased faculty use of electronic information resources appear to be (a) lack of information and (b) lack of training. These would seem to be matters to which the individual University Center libraries, collaborating as appropriate with other information service providers on campus, should give a high priority. At a minimum, there should be an information and training group established on each campus.

The problems of information and training are varied and complex. There exists an abundance of training materials in various formats (print and electronic), and the number is growing daily. Many individual libraries have developed such materials. What the University Center libraries (and perhaps other SUNY libraries as well) may need is a single professionally staffed center, strategically located at one of the campuses, to systematically gather, organize, evaluate, and disseminate information about available informational and training materials; to create and test new materials where a need exists; and to offer specialized training opportunities (e.g., in less frequently used data bases) on a multicampus basis.

This problem is one that is probably most cost-effectively addressed by collective rather than individual action. It might, for example, be less costly for the four University Center libraries to share the costs of supporting one such center, rather than replicating it four times over. The several existing SUNY-wide training centers, now administered by the new office of Vice Chancellor for Information Services at SUNY-Central, offer different structural and financial models that might be relevant.

2. Improve campus networking and enhance faculty connectivity systemwide.

While University Centers' faculty access to computers is nearly complete, nearly 33% of faculty lack connectivity to the campus network from their offices and fewer than 30% have connectivity from their homes. The situation may be even worse for faculty on many of the other sixty SUNY campuses.

This need should be addressed urgently on a University Center-wide and/or SUNY systemwide basis. The library directors, other campus level information providers, the University Centers Library Policy Advisory Council or its successor body, and the SUNY [Chancellor's] Council on Educational Technology should make the provision of the necessary hardware, software, and infrastructure to enable every faculty member to use his or her computer as a communications device a high capital-budget priority. The SUNY Faculty Access to Computing and Student Access to Computing programs offer a potential model for a multicampus Faculty Access to Telecommunications budgetary initiative.

3. Initiate a systematic study of the information technology and information access needs of Humanities scholars in the University Centers, and develop cooperative plans to respond to those needs.

Perhaps the most compelling finding of this study is its affirmation and quantification of the plight of Humanities faculty as information technology have-nots. A decade ago, when the application of computers and telecommunications to scholarship and scholarly communication in the Humanities was embryonic, this situation might have been tolerable. Today, it clearly is not!

This is not a simple problem, and it will not be solved merely by "throwing technology at it." SUNY University Center library and information services policy makers and managers need to know much more about the current capabilities and needs of Humanities faculty on the four campuses, and to explore ways in which the four University Centers collectively might address this problem in a more cost-effective way than if they try to cope with it singly. Below, we suggest the need for further follow-up studies of the needs of Humanities faculty. Another useful initiative might be a symposium on the information technology and information services needs of Humanities faculty in the University Centers, perhaps under sponsorship of the Library Policy Advisory Council or its successor body.

4. Explore the potential economies of group site licensing, especially for the most frequently used electronic databases and other information sources.

Our preliminary analysis indicates a clustering of faculty use of a few electronic databases such as ERIC, Psychlit, Medline and MLA bibliography files. While a much fuller analysis of these data is needed, we might hypothesize that use of electronic databases, like the use of print collections in research libraries, is a Bradford Distribution, that is, that a small number of databases account for the greatest number of faculty uses. If so, a collective approach to the vendors of these databases, on behalf of the four University Centers as a single multisite subscriber, might produce a favorable enough subscription rate that it would be cost effective to mount them locally at either one or all four campuses. Similarly, for the low-use databases, with a handful of occasional users on each campus, mounting the database at one University Center and providing access to users on all four campuses, might be a cost-effective alternative to individual subscriptions.

5. Develop and implement action plans and service policies to facilitate the transition for faculty (and students) from a library and information service environment of "buy in anticipation of demand" to one of "borrow and share in response to demand."

While the relatively high levels of faculty satisfaction with the current holdings of the University Center libraries of key books and journals in their disciplines will undoubtedly be pleasing to the librarians, they carry within them the seeds of a longer term public relations problem. Evidently, absent a major revolution in existing patterns of scholarly communication, these four libraries, like their research library counterparts elsewhere, must continue to invest more of their available funds, not in the purchase of books and journals in anticipation of need, but in the purchase of access to materials owned by others in response to need. For more than two decades, research libraries have gradually been shifting from a collection development philosophy of warehousing a large inventory of scholarly materials to just-in-time, on demand, delivery of information resources. With the studies and policy recommendations of the CLR grant, the University Center libraries are moving to an operational (as contrasted with a physical) integration of their holdings into a single, unified scholarly resource available on equal terms to all members of the four University Center communities in a timely fashion.

Thus it is important to create a library and information resource-sharing environment among the University Centers that will make information sharing an enhancement, rather than an obstacle, to the scholarly enterprise. Significant progress has already been made in this direction, through the successful U.S. Department of Education journal-sharing demonstration, through the ongoing planning for a transparent electronic user interface among the four online catalogs, and through the studies that have been carried out under the present Council on Library Resources grant.

This study, and the studies of duplication of holdings, journal use, and interlibrary borrowing and lending patterns that accompany it, will provide the basis for a collaborative planning and action agenda to negotiate this critical transition from self-sufficiency to mutual dependency. Specifically, we recommend that collective attention be given to

a. Developing the capability on all four campuses for faculty to initiate interlibrary loan requests from home or office, and providing a transparent interface among the online catalogs and circulation systems of the four libraries

b. Formulating common policies and performance standards for interlibrary lending and borrowing

c. Providing interlibrary loan options, including fee-based rapid delivery, for faculty on all four campuses

d. Developing common borrowing and lending rules for faculty (and students) among the four University Center libraries

e. Recognizing that each library has special partnership relationships with particular non-SUNY libraries, and obligations to the New York statewide resource sharing network, which must be taken into account in negotiating cooperative collection-sharing agreements among the University Center libraries.

6. Maintain a University Center-wide policy advisory body to assist the library directors in planning for and implementing an expanded program of cooperative collection development and resource sharing.

Under the Council on Library Resources policy-planning grant, the four library directors created a larger body, made up of faculty and administrators, to identify and consider issues of mutual concern relating to cooperative collection development and

expanded resource sharing. Members of the study team were privileged to participate in the librarian-faculty-administrator symposium that publicly launched the CLR project in the fall of 1991, as well as two subsequent meetings of this Library Policy Advisory Council.

The SUNY University Centers have a strong tradition of faculty participation in library and information services governance. With the transition to a greater reliance on resource sharing, it is clear that the locus for some important policy decisions will inevitably shift from the campus level to what we might term a four-campus (or metacampus) level. We believe that it will continue to be important to provide a mechanism that assures faculty of a meaningful voice in the policy deliberations that must increasingly occur at this metacampus level. We suggest that the six preceding recommendations might form an initial agenda for future consideration by the Library Policy Advisory Council or its successor body.

VI.E The Study Design--A Retrospective

Having developed a survey instrument for this study, seen the responses of over one thousand individuals, and analyzed the data from these respondents, there are several changes or additions we would have made in the study if we were to do it again. First, for analytical purposes, it would have been helpful in the demographic section of the instrument if we had distinguished between full-time and part-time faculty. Second, the major unanswered question appears to be financial. From the responses to questions in Section II we cannot determine what proportion of the funds individuals spend on acquiring materials are personal funds as opposed to department funds or those from grants. Nor do we know the average amount that individuals spend from personal funds in a given time period. This information, when paired with years of service, rank, or discipline, might have yielded interesting results.

In addition, several responses to the open-ended questions occasionally focus on the survey instrument itself. Some individuals felt they were not the best choice as respondents:

"Since my work involves no research, but rather assisting computer users, my answers are probably not pertinent."

"Note that I am very close to retirement. I might have responded differently if I were looking forward to many years on campus."

Others were simply pleased that their input was being solicited:

"Thank you for being sensitive to the needs of users, and for performing this survey."

"I am pleased that this survey is being taken. I hope the response is high. Although I am basically computer illiterate, I am most interested in computer training (mostly, of course, word processing)."

Some individuals wished the survey had included different questions:

"None of your questions relate specifically to how such services might be used in teaching."

"Why don't you consult faculty before writing and sending a questionnaire?...."

The only question that received many negative comments is the one which asked about trade-offs in Section 3. Over half the respondents chose not to answer this question.

"#6 is difficult to answer as I don't know the trade-offs. For example, if you have $100,000 more, how many books can you buy--or how many more staff (of what type?)--or what on-line services could you offer?"

"I'm sure this survey will provide useful information, but the responses to question 6 will be uninterpretable because some people will be ranking desired changes in relative funding shares and others will be describing desired shares themselves."

Librarians expressed concern about their inclusion in the study.

"I think this survey will be markedly skewed by having librarians respond. We have access to and knowledge of so many more systems that I doubt information compiled will be reflective of the general academic community."

"I answered the questions from the perspective of my own research, rather than my work as a reference librarian."

Finally, many individuals expressed difficulty in answering the questionnaire because they did not know what was available. For example:

"Difficult to answer some questions due to lack of info about electronic text or data info services."

"I really do not know much about electronic information resources and what the library has to offer at the present time."

"Several questions about electronic sources of abstracts and bibliographic materials were difficult to answer because I don't know exactly what's out there and what I'm missing."

"Since I know very little about these things, it is hard for me to answer this questionnaire. Too long a questionnaire for busy faculty."

Two final observations about the survey: First, some questions were primarily included to provide information at the campus level. Responses to these do not readily lend themselves to aggregation. Second, the data represent faculty needs and expectations at a specific moment in time--early fall 1992. Were the survey to be repeated, even as early as fall 1993, some of the responses would undoubtedly differ as a consequence of the passage of time and other events that have influenced faculty access to information resources and technology either positively or negatively since these data were gathered.

VI.F Areas for Future Research

We term this report an initial analysis of the results of the faculty survey because the aggregate data are usually presented on a question-by-question basis, with neither across-campus analysis, in-depth demographic analysis, extensive cross-tabulation, or a full content analysis of responses to the open-ended final question. The survey team expects to address these opportunities for further analysis over the next several months, as well as present the study results in the form of papers in professional journals and at professional society meetings. We also anticipate that the data for individual campuses will be analyzed, reviewed, and discussed extensively at the campus level.

Among the more obvious opportunities for follow-up studies are

a. Further study of the needs, requirements, and expectations of humanists for access to electronic information resources and technology, and development of action plans to respond to those needs

b. Further study of the needs, requirements, and expectations of user groups within the general headings of "Humanities," "Social Science," "Science," and "Professional Schools." Each general user group might be broken down into its constituent parts for more in-depth analysis, comparison, and action recommendations

c. Further comparison of the "clustering" phenomenon in use of electronic databases to determine if it is a Bradford Distribution

d. Cost-benefit studies of alternative modes of access to selected categories of high-cost, low-use materials (such as specialized science journals)

e. Replication of this study within three to five years, and comparison of the results with these baseline data.

This survey methodology and the survey instrument are both readily adaptable for administration at other universities and colleges. We invite our colleagues elsewhere to replicate this study, and we await the results with interest.

APPENDIX A

"Issues Facing Research Libraries: Summary Discussion Groups"

SUNY University Center Libraries
Council on Library Resources Project
Symposium on Policy Issues in Cooperative Collection
Development and Resource Sharing

November 20, 1991

SUNY University Center Libraries
Council on Library Resources Project
"Symposium on Policy Issues in Cooperative Collection Development and Resource Sharing"

ISSUES FACING RESEARCH LIBRARIES - SUMMARY OF DISCUSSION GROUPS

Issue A — **Today's research libraries face a crisis caused by dramatic increases in the cost, volume, and kinds of formats of scholarly information that promises to alter radically the traditional structures for creating, disseminating, and using this fundamental academic resource.**

Internationally, 1,000 books are published each day; nationally, 9,600 different periodicals are published annually; the total of all printed output doubles every eight years. In the sciences alone, the curve in the growth of information is awesome. The price escalation of scholarly writings, particularly in journals, has been equally dramatic. The increase over the past two decades is over 400% -- far out-pacing any other measures of national growth, the Consumer Price Index, the Higher Education Price Index, or the level of funding available to research institutions. In the last four years alone, the price of subscriptions for many university members has risen by 52%. What changes can librarians and faculty anticipate in the publication and management of information? How might these changes differ by discipline? What actions might the SUNY University Center Libraries take to respond collaboratively to some of these changes? What must librarians and educators do to ensure the continued viability of the research enterprise?

- Librarians need to develop policies that recognize differences in disciplinary approach and different access needs. Speed of access may be more important to scientists. Even though there is better bibliographic control of humanities literature, scholars want the text, not just the citation. Scholars in the humanities rely on browsing the physical item in the stacks. Can full-text electronic browsing using boolean search capabilities satisfy this need? Humanities scholars often need standard critical editions, not simply any text, and rely more frequently on monographic literature. For scientists, timely access is key, but it is hard to generalize needs even among science disciplines. It is important to keep in mind that many faculty on our campuses do not have access to electronic technology.

- Librarians must take user expectations for cooperation into account in their planning.

- Academic and professional associations should regain control of the journals they publish and faculty should negotiate with publishers so that they retain copyright to their own scholarly work. Professional organizations should contract with university presses rather than commercial publishers who are charging exorbitant subscription rates.

- To address the current crisis in journal costs, academics need to develop electronic journals as alternatives to print journals. Electronic journals must be critically refereed and accepted by tenure committees as scholarly publications.

- Electronic access services will place greater demands on users and more demands on staff for user training.

- SUNY University Center Libraries might negotiate for a special budgetary allocation to provide access to non-duplicated serial titles in the system, or to provide access to serials not currently held by any SUNY library.

BEST COPY AVAILABLE

Issue B **When the volume and diversity of information available exceeds our current capacities to locate and deliver, libraries must find new ways to ensure the scholar's ready access to information and research resources.**

Information overload is one of the most serious problems facing students and scholars today. In many fields it is simply impossible to read all significant works and keep abreast of the flow of new materials. The growing body of "grey literature" and informal electronic communications is not covered by traditional indexing systems, while many humanistic and historical disciplines have inadequate journal indexing tools. Concurrently, the cost of providing enhanced access to a wider array of printed literature is exceeding the resources available to most libraries. Public services provided by libraries are shifting as new technologies and new formats create new demands. How must research libraries change their services to respond to the needs of the global scholar in the electronic age? What are reasonable user expectations for shared access rather than local ownership of materials? How might scholars' needs and users' expectations differ by discipline? What ideas do you have for collective action on the part of SUNY Research Center Libraries to respond to these problems?

- Librarians must focus on what is feasible and acceptable to users. They must meet the needs of undergraduate users for immediacy.
- Should the 4 UCs create shared data resources? PACLINK and MDAS may make this possible.
- Librarians need to adapt electronic technologies to improve ILL services. Delivery systems can be substantially improved by electronic technology. SUNY University Centers need to make a commitment to a rapid document delivery system, but must find the right balance between delivery speed and cost effectiveness.
- SUNY UC librarians need to closely examine duplicated serial titles and determine whether the level of duplication is necessary. But they must also be responsive to the needs of students, especially undergraduates and to local strengths and need for variation. Our objective should not be to eliminate all duplication.
- Collection development policies need to be revised, updated, and reviewed by faculty. Then they need to be shared among the four UCs.
- Periodical use study is an important step but caution needs to be taken that the results will only provide a snapshot. More user studies are needed.
- Decisions about what to keep, what to cancel, what to archive must take into account local and regional commitments to resource sharing and local usage patterns.
- UCs might make electronically available tables of contents for those journals for which a cooperative collection development commitment is made. Might consider putting *Current Contents* on MDAS where search commands are the same as for NOTIS and local holdings can be shown.
- If money is saved through cooperative collection development, that money should go into expanding access.
- Librarians need to take a more active role in the educational process and serve as consultants on curricular issues, access and format issues, etc.

Issue C

University libraries have primary responsibility for collecting and making available world-wide research information resources in support of education and research. The ability to develop and maintain comprehensive research collections is threatened by the soaring costs of published serials and the scarcity of coordinated long-term resource sharing plans. A particular concern is that research libraries have been forced to reduce their commitment to foreign acquisitions at a time when the internationalization of research and the growing interdependence of national economies have intensified the need for foreign materials. What programs can the SUNY University Center Libraries and other libraries develop to increase their success in serving local needs? What are reasonable user expectations for cooperative collection development programs? What collective action might the SUNY University Center Libraries take to ensure the continued availability of a wide variety of research materials?

- There should be more sharing of foreign language materials, both books and journals, among the UCs.
- Librarians should take the lead in proposing possibilities for coordinated collection development and consult closely with campus faculty.
- Some participants felt that there was some anxiety among librarians and library users about the journal use study because information about the grant, the purpose of the study, and the value of the study had not been adequately explained.
- Some participants felt that we should concentrate on expanding access rather than on reducing subscriptions, speed up ILL.
- Could the UCs agree to share responsibility to subscribe to new journals as well as focus on what is already being purchased?
- There is a strong need to define the environment of cooperation and develop specific proposals for areas of cooperation. We need to develop structure and procedures for resource sharing.
- Need to find out more about what kinds of access is acceptable to what level of user and in what discipline.
- General support expressed for SUNY-wide negotiations for site licenses and for central funding designated to promote cooperative ventures.
- Faculty need to be more actively in support of viable alternatives to commercial publishing of academic journals. Some faculty were more interested in taking action to combat the high costs of journal subscriptions than they were in substituting ownership for access.
- For the near term, print journals will still be the accepted format. Political problems of electronic publishing are as important as technical problems if we want user acceptance.

BEST COPY AVAILABLE

Issue D **One quarter to one third of the nation's research collections are embrittled or are in such condition that the next instance of use will result in destruction of the item, due to its printing on acidic paper. Further, as much as 75% of the collections in research libraries face embrittlement over time if action is not taken to deacidify the paper on which they are printed.**

The deteriorating quality of print collections requires that preservation be a high priority for research libraries and their host universities. The chemical treatment of collections and a shift in scholarly publishing policy to the use of non-acidic paper is a partial and essential solution to prevent a future brittle book crisis. Preservation of and access to electronic information will bring new problems to test the limitations of software and hardware. **How might faculty, librarians and computing center personnel work together on these issues? What are some steps that the SUNY University Center Libraries could take to ensure access to research materials for future scholars?**

- In addition to a national focus on preservation, a SUNY-wide focus on cooperation is needed. SUNY libraries should place information about preservation in their online catalog records as well as in the national databases. Regional cooperation is also wise and necessary.
- Non-book materials should be included in preservation programs.
- Librarians need to consult with faculty and look at use of materials before deciding what needs to be preserved.
- We need to address harmful environmental factors as part of our preservation efforts.

Issue E **The application, financing, and implications of new information technologies raise opportunities and concerns throughout research library operations. New computing, communications, and storage technologies and innovative software are integrating users and information across a wide range of systems and sources. Libraries, computing centers, and specialized services are coming closer together institutionally as well as technologically.**

Improving information access and distribution by further automating library functions and services and using advanced telecommunication networks is rapidly leading toward the decentralized electronic gateway of the 21st century. Today's information technology supports parallel systems of print and electronic information. At present, an advanced National Research and Education Network is needed to provide a common framework to interconnect and inter-operate the great variety of networks that have sprung up over the last twenty years. At the same time, capital investment is needed to maintain the advances in library and information automation achieved over the last decade, and policies must be developed that maintain an environment hospitable to the purposes of electronic information and the academic community.

It is becoming progressively easier and more cost-effective to connect research and education communities to each other and to the growing variety of resources and services to which they contribute and on which they depend. Most research and education networks to date have been built to provide access to computational resources and to other types of powerful and expensive scientific and technological instruments. However, new uses and applications of these networks are rapidly appearing. Electronic mail, library catalogs, and campus-wide information systems account for the lion's share of the growth in contemporary networking. Databases of primary research and education materials, known as "digital

libraries," and of secondary materials that provide reference information about the contents of print and digital collections are also beginning to appear on these networks. How and to what degree can the SUNY University Center Libraries take advantage of these emerging opportunities to support scholarship and research and at what cost to traditional library services?

- We need to identify barriers to cooperation and plan to overcome them.
- We need to build on the existing infrastructure.
- SUNY Central administrators prefer to respond to initiatives from the campuses rather than generating their own plans.
- There are still formidable barriers of technical incompatibility of systems and economic barriers.
- There is an urgent need for broad-based information management skill instruction for all undergraduates and skill updates for some graduate students and faculty. Librarians and computing center personnel have a key role to play in this instruction.
- UC libraries need to share information about what databases and other electronic resources they have available to specialist users.
- UC libraries could work cooperatively on coordinated approaches to electronic journal access, dissemination, and archiving.
- Could develop a common approach to copyright issues, e.g. what is the policy when maximum number of copies of one title are made in a given year?
- We must also focus on the technology to transmit images electronically.
- We could cooperate on disk storage and the development and provision of technical expertise, share and bill for usage.
- Computer centers and libraries need to work together proactively. We share common problems of user expectations and limited resources. Could look at group purchases of hardware and software, group licensing arrangements.
- Need to keep in mind that undergraduate students are not willing to pay for access. Most faculty and graduate students are unwilling to pay as well.
- Contract law may be a better way to regulate electronic access than copyright law.
- Will electronic access be less expensive than current methods of information delivery?
- How and in what ways will the functions of computing personnel and library personnel compliment or compete?

BEST COPY AVAILABLE

Issue F **The promise of a future rich in advanced library technology requires education, recruitment, continued development, and effective use of library staff with new capacities and fresh energies.**

Changes in scholarship, scholarly communication, and information technology place new demands on research libraries' staff. In addition, demographic shifts present challenges to the academic and research library community where minorities are underrepresented as employees, and not always adequately served as users of information services. These changes compel the redefinition of positions and will also influence the content and structure of the education of prospective librarians. How might we both extend and fully exploit the knowledge and abilities of existing personnel? What sorts of skills and knowledge will be necessary for the future success of the research librarian or information specialist? How might librarians assist faculty and students to use information technology most effectively?

- There is a continual need for training and retraining of library staff in research libraries. Training is a management issue that the organization must address in a variety of ways. Need to develop close working relationship with Computing Centers.
- Librarians must be more active in the educational process and serve as active consultants.
- Strong concern was expressed about whether library schools were providing the education and training necessary for today's information world. The leadership and management of research libraries will depend on professionals who know how to build coalitions and can develop partnerships between librarians, faculty, students, computer and technology specialists and administrators
- Academic librarians might consider the medical librarian model for meeting continuing education needs.

Issue G **The evolving nature of higher education, government policy, and public and private funding presents a management challenge to provide the leadership needed to the library organization and embrace successfully the changes in economics, scholarly communication, and information technology envisioned for the next decade.**

Budgetary pressures, combined with skyrocketing costs of library operation, prompt library leadership to experiment with new organizational and technical aspects of managing operations including processes for initiating and managing change, and measuring costs and performance. The changing nature of the work and the staff of academic and research libraries will increase the urgency for greater experimentation with new organizational structures. Both library staff and today's users desire a greater voice and participation in setting priorities and developing services. **What are some steps the SUNY University Center Libraries can take to involve their users more substantively in planning for change? How can the SUNY University Centers and their Libraries work together to explore the potential for formal administrative and financial agreements to support collaborative collection development and resource sharing? What long-term funding commitments are necessary and possible in a short-term, crisis-driven budgetary environment?**

- At the UCs, priorities are set by the research needs of the faculty and graduate students. That is what makes the research centers different from the four year liberal arts colleges. The library must actively consult faculty and librarians must be active and visible in their communities as well as in their profession.
- The economic, political, and technological changes we are experiencing are not unique to libraries and cannot be effectively dealt with internally.
- The merging of computing and library delivery services has created the need to reexamine our current administrative designs. We also need to question our collection development guidelines and service assumptions.
- As our environments become more technologically complex, we should be allocating more dollars to staff and user instruction.
- We need to look at consortial arrangements and policies that make them work. It must be a win-win situation for all concerned.
- Increased cooperation means more work in some units and we need staff dedicated to the purpose.
- PACLINK will be a good short-term beginning to facilitate cooperation.
- SUNY-wide agreements with vendors should be pursued, especially SUNY-wide licensing agreements.
- We have "requisite variety" in SUNY library collections which reflect, among other things, the various ways the same subject is taught on different campuses. This variety should assist us in our goal of resource sharing. Now we must turn more attention to access and finding better alternatives to ILL. We need to find "pockets of value" which we can optimize by improving access to them.
- In thinking about resource sharing, we need to ask who are our natural allies? Cooperation works best when it is reciprocal rather than one-way. Cooperation will only work if it responds to local concerns and provides acceptable alternatives.
- We need to think of access on demand as demand funded from the library's acquisition budget, not as additional to acquisition of print, but replacing print when it makes good economic sense to do it.
- Several areas of need for greater cooperation are: electronic journals, data files, and census data.

BEST COPY AVAILABLE

Issue H

The primary legal and ethical constraints to wider use of information technology and resource sharing among libraries are issues of ownership and copyright, confidentiality of data, and rights of access to data. Current technologies make possible unprecedented opportunities for scholarly collaboration and creativity. They also present enormous problems of information piracy and copyright violations, breaches of security and confidentiality, electronic snooping, etc. How can scholars, librarians, and computing center personnel begin to address these issues? What collaborative action might the SUNY University Centers take to widen access to information on our campuses?

- Librarians and academics need to lobby vigorously for reform of laws to uphold the principle of equal access.
- Librarians must not unnecessarily restrict access by failing to cover modest costs of fair use in their concept of access.
- SUNY UCs need to develop uniform ILL policies if they are to serve each others' users.
- A SUNY-wide group of people representing various interest should be appointed to provide ethical leadership, answers to legal questions and clear recommendations for librarians, scholars and administrators.

APPENDIX B

TECHNOLOGY INFRASTRUCTURE SURVEY AND RESOURCE SHARING NEEDS ASSESSMENT

Proposal to the Library Directors
SUNY University Center Libraries

At the November 1991 CLR Grant meeting in Binghamton, the Directors appointed a task force to develop a survey instrument to inventory the technological infrastructure at the four campuses supporting networked information resources and to assess faculty needs and expectations related to resources sharing initiatives and electronic information resources. In addition to the task force members, the survey instrument has been reviewed by the CLR Grant Campus Managers and Sue Faerman, an expert in survey research and a faculty member at SUNY Albany. The final survey instrument would be accompanied by a cover letter from the Director of Libraries to the survey population on her/his campus.

ACTION REQUESTED ON APRIL 28: The Directors are asked to endorse this proposal with respect to scope, character, and cost of the study, and to commit the necessary grant funds to carry out this study, reserving final approval of the survey instrument until July 1992.

RATIONALE/OBJECTIVES OF THE SURVEY

1. To produce a needs assessment and inventory of the technologies presently utilized and/or needed by SUNY faculty and libraries for effective access to electronic information products and networked resources.

2. To achieve an awareness of faculty needs and expectations regarding access to electronic and networked information resources.

3. To become aware of faculty perceptions of acceptable library or system performance in a resource sharing environment and for an effective document delivery system.

4. To sensitize faculty and foster their commitment to resource sharing and document delivery among the SUNY Center libraries.

SCOPE OF AND POPULATION FOR THE SURVEY

The task force recommends that all core teaching faculty, plus selected administrators and professional personnel, and possibly clinical faculty be surveyed on each campus. Because sensitization and fostering commitment of faculty are objectives of the survey, it is believed that surveying the entire faculty is advantageous. Proceeding in this manner will avoid potential arguments with a sample methodology and will also lend credence to program development and other actions that might result from the survey as well as CLR Grant activities and studies. The cost of surveying the entire teaching population is not prohibitive.

The target population of the survey is approximately 6000 faculty, professionals, and administrators. Gathering data useful to the individual campuses is considered to be more important than full compatibility of populations across the campuses. All core teaching faculty should be surveyed on the four campuses. Individual campuses can decide if

clinical/research faculty should be included. Each campus can also review job titles in the Professional, Administrative, and Research areas and target selected titles. Looking at Management Confidential titles should be especially useful.

The population breaks down as follows:

Campus	Teaching	Clinical	Res. Found.	Pro./Admin
Albany	904	--	700	448
Binghamton	687	10	?	100*
Buffalo	2575	included	925	644
Stony Brook	1540	?	?	?

*Binghamton has already reduced the number of professionals/administrators to those they wish to survey.

SURVEY INSTRUMENT

A Draft of the survey instrument is attached. The final survey instrument would be accompanied by a cover letter from the Director of Libraries to the survey population on her/his campus. The task force continues to request comments and suggestions from the four campuses.

BUDGET FOR THE SURVEY AND ANALYSIS

Costs include:

1. Printing 6000 questionnaires (2 pages both sides plus cover sheet and letter from Director).
(reply envelopes could possibly be avoided if survey could be folded and returned using a blank sheet rather than envelope.) $700

2. Programming ($250/day, 1 day) $250

3. Data entry and preliminary data analysis
(based on 6000 surveys, thus this cost would be much lower depending on number of surveys returned. If 50% are returned, cost would be approximately 50% less. This figure is highest). 2,125

Total $3,075

*Note: this cost assessment assumes that the doctoral student, already in the CLR Grant budget for Tom Galvin will be responsible for final data analysis, drafting of report, etc.

TIMETABLE

4/28/92:	Directors approve proposal and agree to commit funds.
5/28/92:	All comments/suggestions received from four campuses regarding survey design and instrument.
5/28-6/28/92:	Task force revises and finalizes instrument, determines data to be analyzed, PDP programs data screens.
6/28-7/28/92:	Final instrument with cover memo to Directors and they complete their final review and approval.
7/28-8/28/92:	Survey instrument and cover memos duplicated and prepared for dissemination.
9/15/92	Surveys distributed on each campus
10/15/92:	All completed surveys returned from the campuses to Galvin.
10/15-11/30/92:	Data entry.
11/30/92-1/30/93:	Data analysis and production of draft report.
1/30/93:	Draft report to Directors, campus grant managers for review.
3/1/93:	Final report to Directors.

Submitted by the task force,
Tom Galvin
Judith Adams
Sharon Bonk

APPENDIX C

Survey Instrument

Faculty Needs Assessment

Access to Electronic Technologies and Information Services

1. Which of the following equipment for access to electronic networks is now readily available to you in your office or home? Please check all to which you have access.

	OFFICE		HOME	
	Yes	No	Yes	No
a. Personal computer	1☐	2☐	1☐	2☐
b. Communications modem/software	1☐	2☐	1☐	2☐
c. Connection to campus network	1☐	2☐	1☐	2☐
d. Printer	1☐	2☐	1☐	2☐
e. FAX (telefacsimile) machine	1☐	2☐	1☐	2☐
f. CD-ROM player connected to computer	1☐	2☐	1☐	2☐

2. The following is a list of information resources available through networks. For each, please indicate the location(s) from which you use it and circle your frequency of use, regardless of location.

	LIBRARY	OFFICE/HOME
a. Your campus library online catalog *daily weekly monthly infrequently never*	☐	☐
b. Other libraries' online catalogs *daily weekly monthly infrequently never*	☐	☐
c. Journal index/abstract databases on campus library online catalog *daily weekly monthly infrequently never*	☐	☐
d. Journal index/abstract databases via commercial vendor (e.g., Dialog, Compuserve) *daily weekly monthly infrequently never*	☐	☐
e. Discipline-based electronic bulletin board, listserves, etc. *daily weekly monthly infrequently never*	☐	☐
f. Electronic journals and newsletters *daily weekly monthly infrequently never*	☐	☐
g. Electronic mail (E-mail) *daily weekly monthly infrequently never*	☐	☐
h. Full text electronic databases (e.g., Nexis/Lexis; ARTFL) *daily weekly monthly infrequently never*	☐	☐
i. Statistical databases (e.g., U.S. Census datafiles) *daily weekly monthly infrequently never*	☐	☐
j. CD-ROM index/abstract databases available in the library (e.g. ERIC, PsycLit, Medline, MLA) *daily weekly monthly infrequently never*	☐	☐

BEST COPY AVAILABLE

3. List the electronic databases, full text files, CD-ROM databases, or electronic journals that you currently use for your teaching and research. [For example, ARTFL, PostModern Culture, Oxford Text Archive, Dante Project, Genbank, USGS data, NOAA data, Compustat, ICPSR files, Census Data]

_____ _____

_____ _____

_____ _____

☐ Check here if you do not use any electronic files.

4. At the present time, which of the following represent obstacles to your use of electronic information technology? Please check all that apply.

☐ lack necessary hardware (computer, modem, etc.)
☐ lack necessary software (communications package, kermit, etc.)
☐ lack necessary training
☐ lack information about available databases
☐ lack operating funds to pay costs of searching and/or document delivery
☐ lack of interest or need
☐ lack of time
☐ other, please specify _____

5. Which of the following might increase your use of the technologies and services in items 2a-2j above? Please check all that apply.

☐ availability of computer equipment in my office or home
☐ connection to campus network
☐ access to data and text files through campus computer network
☐ more information about resources available through networks
☐ instruction/training in the use of computer equipment
☐ instruction/training in the use of e-mail, network sources, online databases
☐ funding
☐ disciplinary trends or requirements
☐ other, please specify _____

6. If you were to participate in training related to electronic technologies, which types of training would you prefer? Please check no more than three.

☐ small group classes/workshops
☐ printed manuals
☐ formal classes
☐ one-on-one tutorials
☐ telephone assistance
☐ on-line tutorials (Computer Assisted Instruction)
☐ assistance via e-mail

BEST COPY AVAILABLE

Access To Materials

1. What percentage of the key books, journals and/or other materials in your field are available in your campus library? Please check one.

1 ☐ more than 90%
2 ☐ more than 75%
3 ☐ more than 50%
4 ☐ more than 25%
5 ☐ less than 25%

2. How often do you request items from the library's interlibrary loan department? Please circle.

daily *weekly* *monthly* *infrequently* *never*

3a. Which of the following methods do you use to obtain publications/materials not available in your campus libraries? Please check all that apply and star (*) the one used most frequently.

1 ☐ interlibrary loan
2 ☐ go myself or send someone to other libraries in the region
3 ☐ purchase books or subscriptions
4 ☐ use fee-based commercial article delivery service
5 ☐ travel to a library or research collection (requiring an overnight stay)
6 ☐ borrow material from colleagues
7 ☐ use network based source, or online (remote) databases
8 ☐ other; please specify _____

3b. To which library do you travel most frequently to use sources not available at this campus?

_____

4. Please indicate if you spend personal, departmental, grant or other funds to access or acquire any of the information resources listed below. Please check all that apply.

	Personal	Dept.	Grant	Other
a. Journal subscriptions, articles, books, preprints	☐	☐	☐	☐
b. Online index/abstract databases	☐	☐	☐	☐
c. Online data or text files	☐	☐	☐	☐
d. Data or text files on floppy disk, CD-ROM, etc.	☐	☐	☐	☐
e. Software for modeling/data or text analysis	☐	☐	☐	☐

Current and Future Expectations

1. The current average delivery time for an interlibrary loan request is between one and three weeks. What do you consider to be an acceptable delivery time (in days) for:

a. Books not held by your campus libraries _____
b. Journal articles not held by your campus libraries _____

2. Please rank your preferences for modes of delivery for journal articles not held at your local campus? (1 = highest, 5 = lowest)

___ FAX
___ Photocopy
___ Electronic scanning/E-mail
___ Microfilm/fiche
___ Borrowing original

3. Would you use an expedited document delivery service for which there would be a charge to provide rapid delivery of journal articles (24 hrs.) or books (48–72 hrs.) not held by your campus libraries:

1 ☐ If the charge were less than $5 per item?
2 ☐ If the charge were between $5 and $10 per item?
3 ☐ If the charge were over $10 per item?
4 ☐ Only if there were no charge?

4. List any electronic databases, CD-ROMs, or electronic journals/newsletters that you want to use but to which you do NOT currently have adequate access or funding to support access.

_____ _____
_____ _____
_____ _____

5. Which of the following kinds of library transactions, if any, would you like to be able to initiate by computer from your office or home? Please check all that apply and star (*) your highest priority.

1 ☐ interlibrary loan requests
2 ☐ reference questions, information queries
3 ☐ renewals and recalls of library materials
4 ☐ document delivery to my office
5 ☐ requesting materials to be placed on reserve
6 ☐ other; please specify _____

6. How would you divide available library/information resources funds between the pairs of sources of information listed at right and left below? Circle the number most indicative of your choice. For example, if you think the library should buy more books rather than more journals, you would circle 1 or 2 in the first item.

	Most	More	Equal	More	Most	
Books	1	2	3	4	5	Journals
Printed materials	1	2	3	4	5	Electronic text or data information resources
Increased library hours	1	2	3	4	5	Increased staff to provide service
More library hours/services	1	2	3	4	5	Strengthen collections
Better network interconnectivity of SUNY libraries and more efficient document delivery	1	2	3	4	5	Acquire more books and journals
Enhancement of library online catalog to include journal index/ abstract or full text databases	1	2	3	4	5	Acquire more books and journals
Enhancement of library catalog to facilitate library transactions from office or home (ILL, renewals, reserve, etc.)	1	2	3	4	5	Acquire more books and journals

BEST COPY AVAILABLE

Information About You

1. Your SUNY campus _____

2. Your department _____

3. Your Faculty Rank/Professional Title. Please check one.

1 ☐ Professor
2 ☐ Associate Professor
3 ☐ Assistant Professor
4 ☐ Instructor/Lecturer
5 ☐ Clinical
6 ☐ Research Foundation Employee
7 ☐ Administrator
8 ☐ Other, please specify _____

4. Number of years of post-secondary teaching experience _____

5. Please offer any comments you might have regarding libraries, electronic information resources, or resource sharing among the SUNY University Center Libraries:

Thank you for taking the time to complete this survey.

Please return to Director of Libraries by September 30, 1992.

APPENDIX D

AUTHORS

JUDITH A. ADAMS is Director of the Lockwood Library, State University of New York, Buffalo, New York.

DEBORAH LINES ANDERSEN is a student in the interdisciplinary Information Science Doctoral Program at the Nelson A. Rockefeller College of Public Affairs and Policy, University at Albany, State University of New York.

SHARON C. BONK is Assistant Director for User Services, University at Albany Libraries, University at Albany, State University of New York.

SUE R. FAERMAN is Associate Professor of Public Administration and Policy, and a member of the Program Faculty of the Organizational Studies Program at the Nelson A. Rockefeller College of Public Affairs and Policy, University at Albany, State University of New York.

THOMAS J. GALVIN is Professor of Information Science and Policy and Director of the interdisciplinary Information Science Doctoral Program at the Nelson A. Rockefeller College of Public Affairs and Policy, University at Albany, State University of New York.

APPENDIX E

BIBLIOGRAPHY

Association of Research Libraries. Office of Management Services. **The SPEC Kit on User Surveys.** Washington, DC: Association of Research Libraries, October 1988, Kit #148.

Association of Research Libraries. Office of Management Services. **User Surveys and Evaluation of Library Services.** Washington, DC: Association of Research Libraries, February 1981, Kit #71.

Baron, Naomi S. "Humanist among the CRTs: The problem of method in the humanities." **Liberal Education** 71(3)251-263, Fall 1985.

Berry, John W. "Academic reference departments and user groups: A preliminary survey." **The Reference Librarian** 12:5-16, Spring/Summer 1985.

Butler, Brett. "Scholarly journals, electronic publishing, and networks: From 1986 to 2000." **Serials Review** 12(2-3)47-52, Fall 1986.

Butler, Meredith and Bonnie Gratch. "Planning a user study: The process defined." **College & Research Libraries** 43(4)320-30, July 1982.

Campbell, Robert. "Document delivery and the journal publisher." **Scholarly Publishing** 23(4)213-221, July 1992.

Case, Donald. "The personal computer: Missing link to the electronic journal?" **Journal of the American Society for Information Science** 36(5)309-313, 1985.

Crawford, David. "Meeting scholarly information needs in an automated environment: A humanist's perspective." **College & Research Libraries** 47(6)569-574, 1986.

Cummins, T.R. "Survey research: A library management tool." **Public Libraries** 27:178-81, Winter 1988.

DeLoughry, Thomas J. "Survey of language professors finds extensive use of computers." **Chronicle of Higher Education,** 39(33)A27, A32, April 21, 1993.

Downes, Robin, ed. "Computing, electronic publishing and information technology: Their impact on academic libraries." **Journal of Library Administration** 9(4)1-99, 1988.

Eisenberg, Daniel. "The electronic journal." **Scholarly Publishing** 20(1)49-58, October 1988.

Fulton, Christine. "Humanists as information users: A review of the literature." **Australian Academic & Research Libraries** 22(3)188-197, September 1991.

Getz, Malcolm. "Electronic publishing: An economic view." **Serials Review** 18(2)25-31, 1992.

Gibbins, Patrick. "Electronic publishing: The future convergence of many disciplines." **Journal of Information Science** 8(3)123-129, 1984.

Gillkin, David P. "Document delivery from full-text on-line files: A pilot project." **Online** 14(3)27-30, 32, May 1990.

Gray, Potter W. "The growing demand for electronic publishing." **Library Acquisitions: Practice and Theory** 15(3)371-377, 1991.

Guest, Susan S. "The use of bibliographic tools by humanities faculty at the State University of New York at Albany." **The Reference Librarian** 18:157-172, Summer 1987.

Hernon, Peter and Charles McClure. **Evaluation and Library Decision Making.** Norwood, NJ: Ablex, 1990.

Kibirige, Harry M. "Information communication highways in the 1990s: An analysis of their potential impact on library automation." **Information Technology and Libraries** 10(3)172-184, September 1991.

Lachman, Christine E. "Fax-on-demand: An introduction." **Library Hi Tech** 9(4)7-24, 1991.

Langschied, Linda. "The changing shape of the electronic journal." **Serials Review** 17(3)7-14, 1991.

Lehmann, Stephen and Patricia Renfro. "Humanists and electronic information services: Acceptance and resistance." **College & Research Libraries** 52:409-413, September 1991.

Lenzini, Rebecca T. and Ward Shaw. "Creating a new definition of library cooperation: Past, present, and future models." **Library Administration & Management** 5(1)37-40, Winter 1991.

Lesk, Michael. "Pricing electronic information." **Serials Review** 18(2)38-40, 1992.

Lonnquist, Harriet. "Scholars seek information: Information-seeking behavior and information needs of humanities scholars." **International Journal of Information and Library Research** 2(3)195-203, 1990.

Lyman, Peter. "The emerging electronic library." **Australian Academic & Research Libraries** 22(3)159-166, September 1991.

Lyman, Peter. "The library of the (not-so-distant) future." **Change** 23(1)34-41, January/February 1991.

Lynch, Clifford A. "The transformation of scholarly communication and the role of the library in the age of networked information." **Serials Librarian** 23(3/4)5-20, 1993.

Maddox, John. "Towards the electronic journal." **Nature** 344:289, March 1990.

Martinsen, David P., Richard A. Love and Lorrin R. Garson. "Multiple use of primary full text information: A publisher's perspective." **Online Review** 13(2)121-133, April 1989.

McClure, Charles. "Increasing the usefulness of research for library managers: Propositions, issues and strategies." **Library Trends** 38:281, Fall 1989.

McMillan, Gail. "Electronic journals: Considerations for the present and the future." **Serials Review** 17(4)77-86, 1991.

O'Reilly Charles A. "Variations in decision maker's use of information sources: The impact of quality and accessibility of information." **Academy of Management Journal** 25:758, December 1982.

Pankake, Marcia. "Humanities research in the 90s: What scholars need; what librarians can do." **Library Hi Tech** 9(1)9-15, 1991.

Perryman, Wayne R. "The changing landscape of information access: The impact of technological advances upon the acquisition, ownership, and dissemination of informational resources within the research library community." **Journal of Library Administration** 15(1/2)73-93, 1991.

Schlichter, Doris J. and J. Michael Pemberton. "The emperor's new clothes? Problems of the user survey as a planning tool in academic libraries." **College & Research Libraries** 53(3)257-265, May 1992.

Schloman, Barbara F., Roy S. Lilly and Wendy Hu. "Targeting liaison activities: Use of a faculty survey in an academic research library." **RQ** 24:496-505, Summer 1989.

Schuman, Seth. "Pay-per-view libraries." **Technology Review** 95(7)14, October 14, 1992.

Seiler, Lauren H. and Joseph Raben. "The electronic journal." **Society** 18(6)76-83, Sept./Oct. 1981.

Standera, Oldrich L. "Electronic publishing: Some notes on reader response and costs." **Scholarly Publishing** 16(4)291-305, 1985.

Talab, R.S. "Copyright and other legal considerations in patron-use software." **Library Trends** 40(1)85-96, Summer 1991.

Van House, Nancy, Beth Weil and Charles McClure. **Measuring Academic Library Performance.** Chicago: American Library Association, 1990.

von Wahlde, Barbara. "Regional library networking: New opportunities for serving scholarship." **Serials Librarian** 23(3/4)161-176, 1993.

Walker, Geraldene and Steven D. Atkinson. "Information access in the humanities: Perils and pitfalls." **Library Hi Tech** 9(1)23-34, 1991.

Watkins, Beverly T. "Many campuses start building tomorrow's electronic library." **The Chronicle of Higher Education** 39(2)19-21, September 2, 1992.

Weiskel, Timothy C. "University libraries, integrated scholarly information systems (ISIS), and the changing character of academic research." **Library Hi Tech** 6(4)7-27, 1988.

Wiberley, Stephen E. Jr. "Habits of humanists: Scholarly behavior and new information technologies." **Library Hi Tech** 9(1)17-21, 1991.

Williams, Frederick. "Network information services as a new public medium." **Media Studies Journal** 5:137-151, Fall 1991.

Wilson, David. "Testing time for electronic journals." **Chronicle of Higher Education** 38(3)A22-A24, September 11, 1991.